FINANCIAL TIMES

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World stock markets scale new peaks, Page 10

World news | Business summary

Israel debates Lebanon pull-out

The Israeli Cabinet is today expected to conclude the debate on proposals for a staged withdrawal of its troops from southern Lebanon.

The plan was presented yesterday by Mr Yitzhak Rabin, the Defence Minister, and senior army officers.

If approved, the withdrawal will begin with a pull-back from Sidon and conclude in the third and final stage with a withdrawal to behind the Israel-Lebanon border. Page 2

France sends troops

France sent 1,000 paramilitary gendarmes, anti-riot police and soldiers to the Pacific territory of New Caledonia, which is in a state of emergency after more violence. Page 2

Libyan shot

Libyan diplomat Farag Omar Mkhyoun was shot dead near his Rome flat after firing back at his assailant. Last January, the Libyan ambassador to Rome died in a similar attack. Page 2

Missile fire inquiry

The West German parliament's defence committee will question Herr Manfred Wörner, the Defence Minister, about the fire in a U.S. Pershing-2 missile, which killed three U.S. soldiers.

Argentina rebuilds

Argentina's armed forces have replaced losses caused by the Falklands conflict and built up the capacity to wage a war of attrition against the British on the Falkland Islands, according to an English university report. Page 2

Kennedy ends tour

U.S. Senator Edward Kennedy ended his South African tour without giving a planned speech in a Soweto church because of security risks. Later, in Zambia, he was to meet banned black leaders. Page 12

Nuclear decision

Dutch Cabinet has agreed that the Netherlands needs at least two more nuclear power plants by the year 2000. Page 2

Submarine repairs

China has launched a repair ship for submarines with seven workshops on board and facilities for submariners to rest at sea.

Kenya bank return

Kenya's Barclays Bank reinstated 2,300 workers dismissed on Friday for defying an order to return to work. They were protesting against moves to limit fringe benefits, including low-interest loans.

Pakistan poll plan

Pakistan leader General Zia-ul-Haq ordered elections for next month but barred parties from the poll and said the future parliament must abide by his Islamisation campaign. Page 2

Fugitive back in HK

Fugitive businessman Mr Amos Dawe returned to Hong Kong after his arrest in Britain last month to serve a five-year jail sentence for fraud, ending a two-year international manhunt.

Dallas air fare cut

UK tour group Jetsave is running four February four-day air returns from England to Dallas in co-operation with British Caledonian Airlines for £179, about £200 less than the next cheapest fare.

Mail-order brides

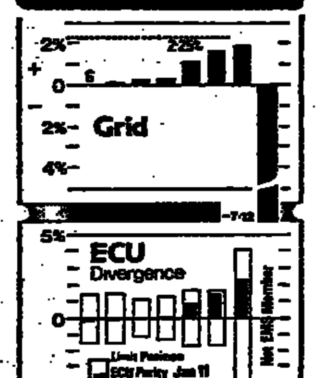
The Spanish Pyrenean village of Plan will hold a springtime fiesta to welcome hundreds of women who answered a newspaper advertisement for wives, placed by the town's unmarried men.

KLM flies new perpetual bond

KLM, the Dutch airline, is raising SwFr 200m ($75.2m) through an updated bond issue, the first time a foreign borrower has made such an issue in Switzerland and the first perpetual issue made by a borrower other than a country or bank in the international bond markets. Page 15

FRENCH telecommunications authority Direction Générale des Télécommunications will this week report a return to profit of about FFr 3.7bn ($381m) for 1984 after losing nearly FFr 1bn in 1983. Page 15

CURRENCIES showed little overall change within the European Monetary System last week as attention



remained focused on the U.S. dollar. That showed little change on the week but fluctuated quite sharply between DM 3.13 and DM 3.18, clearly defined support and resistance levels. Without breaking out of that range, there was unlikely to be much movement by EMS currencies. The Belgian franc continued to improve, however, and moved above the D-Mark as the latter became the second weakest currency. The Dutch guilder remained the weakest member.

The chart shows the two constraints on European Monetary System exchange rates. The upper grid, based on the weakest currency in the system, defines the cross rates from which no currency (except the lira) may move more than 2¼ per cent. The lower chart gives each currency's divergence from its "central rate" against the European Currency Unit (ECU), itself a basket of European currencies.

FOREIGN car manufacturers last year gained 36 per cent of the French automobile market, the first time they have held the single largest share. Page 2

AUSTRIA, France and Britain have emerged as front runners for a £700m ($784m) defence order likely to be placed soon by the Indian Government for howitzer gun systems. Page 3

MOBIL, the second largest U.S. oil company, is to seek approval from its shareholders for big changes to its corporate byelaws which will make it more difficult for unwelcome suitors to win a takeover battle. Page 15

ADVANCED Micro Devices, the California-based microprocessor manufacturer, has announced third-quarter net profits of $29.3m, sharply down from the record levels of the previous three months, providing further evidence of the current downturn in the world semiconductor industry. Page 15

NOVA PARK'S dissident shareholders have called on a Zurich judge to order an extraordinary meeting of the Swiss-based hotel group as soon as possible. Page 15

DAVY McKEE, the UK-based engineering concern, is to build a desulphurisation plant for the controversial Buschhaus power station in West Germany under a contract worth about £85m ($95.2m) Page 3

ROBERT MAXWELL, the UK publisher, plans to float the newspapers in the Mirror Group on the London Stock Exchange

UK prepared to let rates rise in defence of pound

BY PHILIP STEPHENS AND PETER RIDDELL IN LONDON

THE British Government is extremely concerned about the recent slide in sterling on foreign exchange markets and is ready to see interest rates rise further if the currency's rapid fall continues.

Spokesmen for the Treasury yesterday acted quickly to deny press reports that ministers were indifferent to the sharp fall in the pound.

Mrs Margaret Thatcher, the Prime Minister, and Mr Nigel Lawson, the Chancellor of the Exchequer, discussed the position and were said to be dismayed by such suggestions.

The Government's attitude was that the present broadly non-interventionist strategy on the long-term level of sterling would continue, but that that did not mean a total hands-off approach in the face of sudden large movements.

Leaders of the Labour Party will this morning consider whether to press for an emergency statement in parliament this afternoon or if they should wait for Mr Lawson's speech in tomorrow's debate on unemployment.

Mr Lawson yesterday met other senior ministers to discuss strategy for the March 19 budget.

The public emphasis on ministers' concern follows the failure of Friday's rise in bank base rates to 10½ per cent to halt sterling's fall. It also reflects official acknowledgement that the currency's weakness can no longer be blamed entirely on the strong dollar and falling oil prices.

Officials emphasised that the Government was not prepared to run the risk of its anti-inflation policy being blown off course by too sharp a fall in sterling's value.

That did not mean the Government would defend any particular exchange rate, nor was it ready to intervene on foreign exchange markets with the official reserves.

It did imply, however, that Mr Lawson would not resist a further rise in base rates if the situation deteriorated. The Treasury indicated that it had "acted without hesitation" in endorsing a large rise in interest rates last July.

The Government is obviously not keen to encourage any new rise in borrowing costs, but it was emphasised yesterday that the dominant consideration was that it should not run risks with its monetary policy.

Friday's increase was readily endorsed by the authorities after it became obvious that sterling's fall was signalling the need for a tightening of monetary policy.

The key money-supply measure, sterling M3, is at the top of its 6 to 10 per cent annual target range and private credit demand has been growing strongly.

The Government hopes that the rise so far in base rates, coupled with the expression of public concern over the situation, might be enough to restore confidence.

There is also the possibility that oil prices might firm in response to the cold weather, or that U.S. interest rates might soften further, taking some of the pressure off the pound.

The immediate response of the markets on Friday, however, was not encouraging, with the higher rates failing to stop a fall in the pound's value to less than $1.12 in New York.

Many London economists believe it will take firm action by the Government – perhaps along the lines of the 2¼-point rise in base rates seen last July – to stabilise the markets.

Hattersley plan, Page 5; UK exports, Page 12; money markets, Page 26

Missile talks 'depend on space weapons ban'

BY PATRICK COCKBURN IN MOSCOW AND REGINALD DALE IN WASHINGTON

MR ANDREI GROMYKO, the Soviet Foreign Minister, said last night that if no progress was made towards banning space weapons in the forthcoming disarmament talks with the U.S., it would be superfluous to try to limit intermediate and strategic nuclear missiles.

Speaking on Soviet television, Mr Gromyko laid down Moscow's position in the disarmament negotiations agreed upon in Geneva last week. He emphasised that the Soviet Union had concluded that "it is impossible to examine productively questions of strategic nuclear armament and intermediate-range nuclear weapons without considering questions of space, outer space."

In Washington Mr George Shultz, the U.S. Secretary of State, responded calmly to Mr Gromyko's remarks, saying that the consequences for the negotiations "remained to be seen." Speaking on television, he brushed aside suggestions that Mr Gromyko had injected "a new element of uncertainty" into the talks or doomed their chances of success.

Mr Shultz said the Soviet Foreign Minister had spent considerable time during last week's talks making the same point. He said that in Geneva, Mr Gromyko had accepted that there could be exceptions to the Soviet principle that progress in one of three sets of talks was dependent on progress in the others.

Mr Caspar Weinberger, U.S. Defence Secretary, in a separate television interview, took a tougher line in response to Mr Gromyko's comments, saying they seemed to conflict with the agreement in Geneva that the talks should proceed without preconditions. Mr Weinberger insisted that there was no possibility of the U.S. giving up its research into, or deployment of, a strategic defence system (the so-called Star Wars programme).

The Soviet Foreign Minister yesterday also firmly rejected the U.S. position that research into space weapons and anti-ballistic missile systems was different from their development and deployment. Mr Gromyko called the distinction "near absurd."

"Who can guarantee that the line will be drawn after research has been completed?" he asked. "Will there not be people, scientists and others, who will say: 'Sorry, we have spent so many billions of dollars on research, so why waste all this money?'" Deployment would be almost inevitable.

He vigorously attacked the argument, which he described as the U.S. position, that the militarisation of space could be banned but not research because it was impossible to verify what research was going on.

Admitting that written research might be difficult to verify Mr Gromyko said that nevertheless "there is often some proving ground next to a laboratory" which could be seen by satellites.

Mr Weinberger said that if the research the U.S. was carrying out showed that a feasible, thoroughly reliable defensive system could be developed – and he believed it could – the U.S. would then be prepared to discuss ways of deploying it. He again made clear that the U.S. Administration's aim, in discussing Star Wars, would not be to nego-

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Japan's industry loses edge

BY ROBIN PAULEY IN LONDON

JAPAN has fallen from the top of the world competitiveness and productivity league for the first time, according to an analysis of international industry published in Geneva today.

The U.S. has moved to the top after two years in third place. After leading the world in each of the five previous annual surveys, Japan has been pushed back into third place, behind Switzerland, partly by a very low score for endowment with natural resources but also, very significantly, by a slip in Japanese business confidence.

The survey by the European Management Forum, an independent non-profit-making foundation, shows that apart from the dramatic switch in positions between the U.S. and Japan, world competitiveness and productivity continue to be dominated by four countries: the U.S., Switzerland, Japan and West Germany.

Britain continued to perform badly during 1984 and has a poor outlook, according to the 1985 survey. Its overall ranking of 14th place is the same as in the 1984 survey, one down on 1983 and two down on 1982.

The survey includes interviews with more than 1,000 business executives in the 28 countries and judges competitiveness on 302 criteria in 10 groups. The countries are all the OECD states except Iceland, with Belgium and Luxembourg judged as a single unit. In addition, the 1985 report includes for the first time six non-OECD states: Brazil, India, South Korea, Malaysia, Mexico and Saudi Arabia.

Japan scores first place in five categories – dynamism of the economy, industrial efficacy, dynamics of the market, outward orientation and innovative forward orientation. Apart from its bad ranking on natural endowments, its lowest score is 7th (state interference).

The survey gives Japanese companies and workforces a glowing testimonial but warns of two dangers: the persistent "featherbedding" of Japanese agriculture and the threat of a protectionist foreign reaction against "growing Japanese trade surpluses and the wholesale conquest of certain market segments."

While business confidence fell in Japan in 1984, it soared in the U.S. Although the U.S. has only one first place (human resources) it has four seconds and none below 7th.

Although the outlook remains favourable for the U.S. economy, in which more than 20m jobs have been created since 1973, the survey gives a warning that the greatest single threat comes from the country's own "huge national debt."

Britain does not come out well in any category and scores very badly in some against the other OECD states. The one bright spot is a sharp improvement in the financial dynamism category, up this year to 5th place, its best result, compared with 15th last year. "A major British asset, which current deregulation could further enhance, is the breadth and depth of its financial market."

The expanding service sector and North Sea oil and gas were Britain's other strong points. However,

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BA will offer cash to end Laker dispute

BY DUNCAN CAMPBELL-SMITH IN LONDON

BRITISH AIRWAYS has decided in principle to make a private payment to Sir Freddie Laker as part of its attempt to resolve outstanding U.S. litigation against it which is delaying plans to privatise the airline this year.

The payment, designed to end the dispute over BA's alleged involvement with the collapse of Sir Freddie's Skytrain service in 1982, would be among settlements now being finalised by Linklaters and Paines, BA's London solicitors, after talks with more than 50 other parties.

An approach has been made to Sir Freddie and his advisers at the weekend as a late addition to the process. BA's solicitors met them on Friday at the Sonesta Beach Hotel in Key Biscayne, Florida, where talks were still continuing last night. A private payment by BA to Sir Freddie of anything up to $5m is understood to be at stake.

The meeting reflects a significant change of heart by BA, which is anxious to put its legal difficulties behind it and resume progress towards privatisation. "We have all got more important things to do than continue fighting legal disputes which at the end of the day would lead to nothing," said Mr Gordon Dunlop, the airline's chief financial officer, in London yesterday.

The main plaintiff against BA in the U.S. courts is Mr Christopher Morris, the liquidator of Laker Airways. He is suing BA and 10 other international airlines for treble damages of $1.05bn on behalf of Laker Airways' creditors, in a case awaiting trial this year in the District Court of Washington DC.

Sir Freddie and Lady Laker were the sole shareholders of Laker Airways, which collapsed in 1982, but they have no legal status in the present action brought by Mr Morris. All the defendants have been actively pursuing an out-of-court settlement since early last month – but they have firmly resisted, until now, any moves to offer separate compensation to Sir Freddie.

Legal counsel on both sides of the Atlantic, however, have persuaded the airlines to drop this attitude in the hope of ensuring that a settlement with Mr Morris might write the final chapter in the Laker Airways story.

Unless Sir Freddie is involved directly in any agreed deal, "he could have some nuisance value," as Mr Dunlop put it. "We are buying a signature. It may be an expensive signature. But he would be barred for ever more from making further trouble."

BA and its advisers have been assigned responsibility for dealing with Sir Freddie, in accordance with the decision of the co-defendants last month to let BA take charge of all negotiations with the Laker liquidator on their joint behalf.

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Saudi Arabia warns on petrochemicals

BY TONY JACKSON IN LONDON

SAUDI ARABIA'S state industrial holding company Sabic, has issued a strong warning to the European chemicals industry on the dangers of protectionism.

Mr Ibrahim A. Salamah, Sabic managing director, denied that Saudi production of petrochemicals would be large enough to cause serious market disruption in Europe or elsewhere.

The Sabic statement was strongly critical of a paper released by Cefic, the European chemical industry association, last November which called on the EEC to monitor Saudi sales of petrochemicals in Europe, and called for protection from "excessive imports."

Sabic said: "Our main drive is to ensure that our products would meet the highest international standards, and that our factories would make reasonable profits. We aim at straight economic competitiveness, for we believe it is the only path that could lead to a gradual and healthy process of restructuring the industry."

EEC exports to Saudi Arabia in 1983, *said the statement,* were worth $20bn and imports of Saudi products amounted to only $10.5bn. Almost 75 per cent of Europe's merchandise exports entered Saudi Arabia duty free. "It seems only natural that we should enjoy some reciprocal rights."

Cefic said last night: "We have heard some of these arguments from Sabic before, and we are disappointed that they think our paper was protectionist. We thought it was reasonably balanced."

Coke puts some U.S. sparkle in the Tour de France

By Paul Betts in Paris

A SMALL revolution is taking place in the world of French sport. The Tour de France – a national institution and probably the most venerable of all French sporting events – has fallen prey to Coca-Cola.

America's favourite soft drink has dislodged Perrier, the leading French sparkling water, as the official drink of the Tour de France bicycle race.

For the past 52 years, it was a familiar ritual to see competitors rush to the Perrier van after crossing the finishing line at the end of each gruelling stage in the race. They would drink as much of the bubbly water as they could and, inevitably, the winner of each stage would be photographed holding his little green Perrier bottle.

From this year, however, the competitors will find Coke at the end of each stage in the race. Some professional cyclists have already said they are unhappy about the change, but others have welcomed Coke's arrival if it helps to boost the Tour.

Tour organisers appear to have been seduced by Coca-Cola because they feel its sponsorship will help to promote the race into a bigger international event, especially in the U.S.

They argue that cycling is taking off as a sport in America and the Coca-Cola sponsorship is bound to lead to greater visibility of this annual French institution in the U.S.

Coca-Cola's film subsidiary, Columbia Pictures, is also showing interest in cycling and the Tour in particular. It is considering producing a film called "The Yellow Jersey" after the colour of the shirt worn by the leader and ultimate winner of the race.

Perrier for its part, apparently regards the Tour as no longer essential for its image. Indeed, it has been cultivating a more upmarket image in France and abroad.

Perhaps the biggest irony is that Coke takes over from Perrier while the Socialist Government has sought to defend French traditions against the invasion of American products and culture. Despite spirited campaigning by M Jack Lang, the Minister of Culture, however, the latest fads from the other side of the Atlantic have continued their inexorable penetration of France.

In the circumstances, it was probably inevitable that even the Tour should succumb to one of the popular symbols of modern America.

CONTENTS

Paris increases New Caledonia police strength

BY PAUL BETTS IN PARIS

THE FRENCH Government dispatched at the weekend another 1,000 gendarmes and riot police forces after the sudden upsurge of violence in the Pacific territory of New Caledonia.

For the second time in the history of the French Fifth Republic a state of emergency was imposed on a French colonial territory in the face of the riots and violence which followed the murder of a young white settler and the subsequent death of two hard-line leaders of the New Caledonia independence movement. A state of emergency was imposed in Algeria in 1961.

M Laurent Fabius, the French Socialist Prime Minister, held emergency talks with cabinet ministers in Paris on Saturday, after which he announced the dispatch of additional French police forces to the Pacific islands.

The police forces have now been increased to 3,280 men in New Caldonia but M Edgard Pisani, the French Government's special envoy in the territory, can now also avail himself under the state of emergency of 3,000 French soldiers stationed in the colony.

The weekend incidents are among the most violent to have hit the territory so far and *come at a time when the French* Government was hoping that its recent proposals to hold a referendum on the islands' future next July would help calm the tense atmosphere.

The proposals for a peaceful transition to independence but maintaining strong links with France were unveiled by M. Pisani eight days ago. They appeared to have been given a relatively good reception until this weekend's flare-up.

M. Jacques Chirac, the leader of the main French opposition party, the neo-Gaullist RPR, yesterday called for the suspension of M. Pisani's referendum plans for New Caledonia and asked President Mitterrand to take charge personally of the New Caledonia conflict.

The right-wing opposition in France has maintained a relatively low-key reaction to the latest events in New Caledonia to avoid being accused of stirring up the conflict for its own political ends a few months before French local elections.

The authorities in New Caledonia claimed yesterday that French gendarmes were not under orders to shoot to kill M. Eloi Machoro, one of the two leading separatist hard-liners killed at the weekend. M. Hachoro, and another separatist M. Marcel Nonnaro, were killed by gendarmes during a gunfight at a farm on the east coast of the main island of New Caledonia.

Dutch Cabinet approves two more nuclear plants

BY LAURA RAUN IN AMSTERDAM

THE DUTCH Cabinet has agreed that the Netherlands needs at least two more nuclear power plants by the turn of the century in a decision that is *likely to spark great* controversy.

Nuclear energy will remain cheaper than energy provided from coal, oil or natural gas and the problems of safety, security, waste disposal and siting all are manageable, according to Mr Gijs van Aardenne, Economics Minister, and Mr Pieter Winsemius, Environmental Minister.

Mr van Aardenne argued that the construction of two nuclear power plants would provide at least 25,000 jobs, a significant argument in a country where the unemployment rate has been above 17 per cent for two years.

*Ministers agreed that a mini*mum of two nuclear plants with a combined capacity of 2,500 megawatts ought to be built to satisfy the energy shortage projected for the year 2000.

The decision came after a decade of public debate, which escalated a year ago with the findings of a Government-commissioned steering group that concluded no decision was immediately necessary on the expansion of nuclear energy.

Foreigners raise share of French car market

By Paul Betts in Paris

FOREIGN CAR manufacturers gained for the first time last year the single largest share of the French automobile market with nearly 36 per cent of total new registrations.

Led by Ford, Opel, Fiat and Volkswagen, the foreign car makers' 35.9 per cent of the French market topped the domestic market penteration of the French private Peugeot group with 33.1 per cent and of the French state-owned Renault group with 31 per cent.

Although new registrations declined by 12.9 per cent to 1,758,340 cars last year from just over 2m in 1983, the foreign manufacturers saw their overall sales in volume fall by only 4.3 per cent on the declining French market. By contrast, Renault's sales dropped 23.1 per cent and the Peugeot group's sales fell by 10.4 per cent compared with 1983.

The continuing strength of foreign imports on the domestic market are adding to the general problems of the French automobile industry. The state-owned Renault group, which was overtaken by the private Peugeot group in domestic market share last year, is now undergoing a profound crisis and is expected to report loss of up to FFr 10bn (£965m) for 1984.

Peugeot, whose performance is being sustained by the remarkable commercial success of its Peugeot 205 supermini, is now hoping to return into the black this year.

However, the private car group is now faced with the complex decision on the future of its troubled Talbot car marque and efforts to return its Citroen division into profit.

The French Government is becoming increasingly worried about the performance of Renault whose new Superfive mini model launched last autumn has failed so far to *help the state group recover* from its current slump.

Last year foreign car registrations totalled 630,548 new cars or 35.9 per cent of the market compared with 32.7 per cent of the market in 1983. Renault with 545,261 new registrations saw its market share decline from 35.1 per cent in 1983 to 31 per cent last year, while Peugeot with 582,501 registrations saw its domestic market share increase from 32.2 per cent to 33.1 per cent last year.

Pershing probe

U.S. MILITARY experts have arrived in West Germany to investigate a fatal fire involving a Pershing-2 missile amid signs that the accident has renewed controversy about the missiles' deployment, Reuetr reports from Bonn.

Both West German opposition parties have demanded a full inquiry by the centre-right Bonn Government, *which has made clear it con*siders the accident a U.S. affair. Three U.S. soldiers died and 16 were injured

Cruise out of favour

A large majority of Belgians want the deployment of U.S. cruise nuclear missiles, due to begin in March, to be postponed or cancelled, according to an opinion poll published yesterday, Reuter reports from Brussels. About 45 per cent of respondents favoured outright cancellation of the Belgian cruise programme, while only 18 per cent supported immediate deployment.

HK prime rate cut

Hong Kong's leading banks clipped a ½ percentage point from the prime lending rate at the weekend in response to a steady strengthening of the HK dollar, David Dodwell reports from Hong Kong. The rate stands at 10.5 per cent

Reagan set to grant CEA reprieve

BY NANCY DUNNE IN WASHINGTON

PRESIDENT REAGAN was reported over the weekend to have granted a reprieve to the Council of Economic Advisers, which some White House advisers had wanted to abolish.

According to White House officials, the President is likely to approve a continuation of the Council and to announce soon a successor to Mr Martin S. Feldstein, the former CEA chairman who left in July.

Some sources said the decision to retain the Council was based on cost estimates of eliminating it. However, killing the CEA would require Congressional approval since Congress established it.

Meanwhile, as the various budget sessions are held in Washington, Mr Robert Dole, the Senate majority leader, said there would be no new taxes this year.

He indicated that Senate Republicans, who have been meeting almost daily with Administration officials to examine Budget proposals, will try to push for a freeze of the fiscal year 1986 Budget at fiscal 1985 levels.

Appearing on a Sunday morning news programme, Mr David Stockman, the U.S. Budget director, defended President Reagan against Democratic charges that the President has "walked away" from making difficult choices on the budget deficit, leaving the top political decisions up to Congress.

Mr Stockman said that in November and December the President "went through the budget in excruciating line item detail making choices" for proposals now being presented to Senate Republicans.

"Senator Dole realises he is taking his army into an extraordinary battle, and he wants to get them prepared," Mr Stockman said.

Mr Stockman said he would supporta freeze of many programmes for 1986 at 1985 levels but he also wanted reductions on some and elimination of others.

He listed among specific targets for cuts: subsidies for Amtrack train service; the farm programme; veterans' health benefits and state and local revenue sharing.

He acknowledged that he may not live to see the balanced budget the President promised during the Presidential campaign for the end of his term. In fact, he said, he didn't know the Administration would reach a later goal of reducing the budget deficit to $100bn (£89bn) by fiscal 1988.

Peru seeks extension of repayments freeze

BY PETER MONTAGNON, EUROMARKETS CORRESPONDENT

PERU HAS asked its 275 creditor banks for a further one-month freeze on debt repayments to allow time for an International Monetary Fund economic mission to examine its economy.

The request came just as previous arrangements to roll forward maturing debt were due to expire today and although it has not been formally endorsed by the Citibank-led committee of leading creditor banks, it is known to reflect their view that a new extension should be kept as short as possible.

Banks want to keep up pressure on Peru to seek a new meeting to discuss interest arrears now thought to total some $160m. Such a meeting is expected around the turn of the month — and well before the new extension expires on February 14.

Meanwhile, Peru has announced a further change in its economic team with the promotion of Sr Victor Miro Quesada, general manager of the state-owned Banco de la Nacion, to head its external debt committee. He replaces Sr Garrido Lecca, who was appointed Finance Minister earlier this month.

● Venezuela's leading creditor banks are to restart talks on the legal terms and conditions of the country's proposed $20.75bn public sector debt rescheduling which have been stalled since last October.

The decision follows efforts by Venezuela to speed up settlement of private sector interest arrears which have always been seen as a major obstacle to completion of the rescheduling agreement.

Venezuela is to hold a seminar for foreign bankers in Caracas this Thursday to explain its new policy on private sector debt and this is likely to be followed around the end of the month by a meeting with the committee of leading creditors chaired by Chase Manhattan.

This meeting will also have to discuss a further temporary freeze on debt repayments, replacing the present arrangements which expire on January 31.

But bankers say that up to six months work may still be needed on the rescheduling agreement because it is a complicated multi-year deal that includes a limited opition for lenders to switch the currency of their loans out of U.S. dollars.

Kinnock calls for stronger trade links with Managua

BY TIM COONE IN MANAGUA

TRADE and economic links *between Nicaragua and the UK* should be strengthened, according to Mr Neil Kinnock, leader of the British Labour Party.

Speaking just before his departure from Managua at the weekend after attending the inauguration of Nicaragua's new President, Sr Daniel Ortega, he said: "There are both moral and material advantages in increasing our levels of participation in the Nicaraguan economy."

He described British aid levels to Nicaragua as "pathetic, at around £60,000 a year."

"There is trade potential in Nicaragua and the society is in desperate need for investment," *he said.*

Mr Kinnock identified in particular the gold-mining and fisheries sectors as areas which could benefit from British tech-

President Ortega said in his inaugural speech that a foreign investment law would be drawn up this year.

Mr Kinnock said also that in his meeting with Sr Fidel Castro, the Cuban President, in Managua last Friday, he believed Sr Castro to be fully committed to the Contadora group peace efforts in Central America and that the recent bilateral talks between the U.S. and Cuba could shortly lead to "new developments."

"There is a very clear philosophical adjustment coming from Fidel Castro, that it would be wrong for Nicaragua to fall into the isolation that Cuba fell into, or was pushed into, 20 years ago. This is an encouragement for the Sandinistas and a demonstration of sagacity by Fidel Castro."

President Castro opened a major new sugar factory in Nicaragua on Friday which has been largely financed by the Cubans. In a surprise move he announced the conversion of the $73m (£61.86m) Cuban investment in the project, which was to have been paid back to Cuba over 12 years, into a donation to the Nicaraguan Government.

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Row erupts in Washington over aid to Afghan rebels

BY REGINALD DALE, U.S. EDITOR IN WASHINGTON

NEW CONTROVERSY over *covert U.S. aid to the Afghan* rebels erupted in Washington at the weekend, following reports that the programme had developed rapidly into the largest U.S. covert operation since the Vietnam war. The Washington Post said that Congress had nearly tripled the Reagan Administration's initial request for the programme to about $250m for the current fiscal year.

The new figure would amount to more than 80 per cent of the Central Intelligence Agency's annual budget for covert operations, dwarfing the roughly $24m the agency spent annually to back the right-wing "contra" rebels in Nicaragua until congressional authorisation was suspended last year.

With other countries in the Middle East and Asia contributing about $200m, the annual aid package to the Afghan insurgents was approaching $500m, the Post reported.

The rapid expansion of the programme had led to heated arguments in Washington between those who fear that it is getting out of hand and may trigger an escalation of Soviet military activity in Afghanistan, and those who believe that the U.S. is still not doing enough for the rebels.

Congressional backers of the operation argue that the equipment supplied to the rebels is second rate and that they are not being given enough supplies and ammunition.

The CIA reportedly vetoed plans to send the insurgents sophisticated American ground-to-air missiles, but money was said to have been provided for advanced, heavy, anti-aircraft cannon.

By the end of the year, the U.S. programme, which supplies weapons, ammunition, clothing, medical supplies and money for food, is expected to support an estimated 200,000 to 300,000 full or part-time insurgents against a Soviet army of 110,000 troops, the Post said.

Argentina's 'military capacity improved'

By Robert Graham, Latin American Editor

ARGENTINA'S armed forces have replaced their losses caused by the 1982 Falklands conflict and have built up a capacity which would enable it to wage a war of attrition against the British on the Falkland Islands, according to a report released today by the University of Bradford.

The report discounts any attempt by the democratic government of President Raul Alfonsin to invade the island. However, it says Argentina is overcoming all the deficiencies shown up by the war and has acquired a capacity enabling it to engage in low intensity military operations.

The report concludes that this could make defence of the Falklands immensely more costly.

Among the principal improvements in Argentinas' armaments is a "complete refurbishment" of the air force and naval air force.

The number of front line aircraft has risen from 70 at the end of the conflict to 160—considerably higher than the 130 at the start of the war. There has also been rapid expansion of air-launched shipping missiles with up to 28 exocet missiles and a number of Israeli-made Gabriel missiles deployed.

The report also claims that up to 80 front line aircraft have provision for aerial re-fuelling which would substantially increase strike and interceptor aircraft's capacity to operate over the Falklands. The air force has also acquired sophisticated French-made anti-runway Durandal bombs which could be used against the Mount Pleasant air base being built on the Falklands.

Argentina has also made improvements in its maritime reconnaissance and early warning capability in tracking submarines, surface ships and aircraft.

Yesterday the Foreign Office said the Government was aware of the report but made no comment. In private, officials in Whitehall say they are carefully monitoring the Argentine military build-up and say distinctions must be made between discussions to purchase weapons and equipment, orders and delivery.

For example, the report says 28 Skyhawks have been delivered to the air force and naval airforce. *Apparently these have* been negotiated in a deal with the Israeli Government but are apparently not yet in Argentina as their transfer would require U.S. Government approval.

The report also misses out some of the Argentine purchases, for example, of 45 Xavante jet fighters from Brazil.

However, Whitehall officials do not challenge the broad conclusions of the report.

China set to buy arms from U.S.

By Our U.S. Editor in Washington

THE U.S. has reached a preliminary understanding with China to sell the Chinese navy an arms package that would include modern anti-submarine weapons and defence systems against missile attack, U.S. officials said at the weekend.

The deal, due to be formally concluded *later this month,* would mark the first concrete results of more than a year of high-level contacts between Washington and Peking on possible U.S. arms sales, dating back to the visit to China by Mr Caspar Weinberger, the Defence Secretary, in September 1983.

News of the proposed sale came as Gen John Vessey, chairman of the U.S. Joints Chiefs of Staff, began talks in Peking at the start of a week-long visit.

U.S. officials said that the sales would include sonar submarine detection devices, torpedoes, gas turbine engines and the Phalanx ship-defence system.

Lisbon raises consumer prices

By Diana Smith in Lisbon

THE PORTUGUESE Government announced sweeping increases this weekend in the prices of telecommunications and postal services, the utilities, fares, fertiliser, bread, milk and sugar.

Averaging between 9 and 22 per cent against 1984 inflation of 23 per cent, the price rises in public services, utilities and subsidised foods such as bread and milk will ease some of the burden on this special funds *that go to subsidising prices to* the consumer as they have run up a debt of Esc 180bn (£1.05bn).

Petrol has now risen to Esc 109 a litre (£2.22 a gallon), one of the highest rates in Western Europe, whereas Portugal's wage levels are the lowest on the Continent. The price of a litre of milk is now Esc 47.

The present minimum industrial Portuguese wage is only Esc 15,600 a month. Real wages dropped by an estimated 10 per cent with the rigorous austerity of 1984, and the average Portuguese earns no more than the national minimum wage.

Zia calls parliamentary election

BY MOHAMMED AFTAB IN ISLAMABAD

President Zia ul-Haq, Pakistan's military ruler, has announced parliamentary elections for February 25 but has banned political parties from taking part.

The elections were immediately denounced by opposition politicians as a fraud—a charge they also made about the December 19 referendum which assured General Zia five more years in power.

General Zia announced the *election in a televised address* on Saturday night. He asked 35m voters to go to the polls and elect 237 members of the national assembly to be called "shoora" or the Islamic Advisory Council. He raised the number of seats by 19 to accommodate more women and representation of religious minorities in this predominantly Moslem nation.

The electorate will vote on February 28 for four separate legislatures for the provinces (states) of Punjab, Sind, Baluchistan and North West Frontier.

The four provincial legislatures will elect 87 senators by the middle of March. The shoora and the Senate will meet in Islamabad on March 23. It will be the first time they have assembled since July 5, 1977 when they were disbanded by Gen Zia, following his military take-over from the then Prime Minister Zulfikar Ali Bhutto.

Gen Zia has banned most leading opposition leaders from standing in the elections, as well as many former cabinet ministers and ministers in the provincial govenments. He can, *however, relax the ban on appli*cation by the barred individuals.

Included in the ban are Begum Nusrat Bhutto and her daughter Miss Benazir Bhutto who head the Pakistan Peoples Party (PPP) founder by former Prime Minister Bhutto.

The political parties, all of which have been banned for the last five years, will have no role in the elections — a move which will lead to further confrontation between Gen Zia and the politicians.

Candidates in the elections must be "good, practising Moslems," and stand on their own not as members or nominees of parties. They must not have been convicted of moral offences, including moral turpitude, smuggling, profiteering, hoarding, and adulteration of foodstuffs. Moslems will vote for Moslem candidates; non-Moslem will vote for their own candidates.

Gen Zia asked the electorate not to vote for drinkers, smugglers, anti-social elements gamblers, and those who oppose Pakistan's Islamic ideology.

In his address, General Zia said that after the elections are over, and the future parliament meets on March 23, "the process of transfer of power will commence," but he did not specify dates. He has recently said that the transfer of power will not be from the military regime to the elected civilians. The two will participate in "a power-sharing" arrangement.

The nation's unanimously adopted constitution of 1973, major chunks of which General Zia has already suspended, will be further amended to provide more powers for the President, reduce the authority of an elected civilian Prime Minister, and create a Turkish-style National Security Council

Israeli Cabinet debates troop pullout plan

BY DAVID LENNON IN TEL AVIV

PROPOSALS FOR a staged withdrawal of Israeli troops from Lebanon were presented to the Cabinet yesterday by Mr Yitzhak Rabin, the Defence Minister, and senior army officers. The Cabinet will meet again today and is expected to conclude its debate on the plan.

If approved by Cabinet, the withdrawal will begin with a pull-back from the populous town of Sidon and end in the third and final stage with a *withdrawal to behind the* Israel-Lebanon border.

Several Likud members of the Cabinet oppose the idea of announcing a timetable for withdrawal. Prominent among them is Prof Moshe Arens, the former Defence Minister, who argues that such a declaration would mean that no one in southern *Lebanon would be willing to co*operate with Israel and recruitment to the Israel-backed south Lebanon militia would halt. However, he is believed to be in the minority in Cabinet.

By working out a withdrawal plan, albeit without a timetable as yet, Tel Aviv would be answering Beirut's basic demand that it must know Israel's intentions before it can agree to the redeployment of UN forces in Lebanon. Disagreement over this issue caused the current stalemate in the negotiations.

Mr Rabin's goal is withdrawal to the international border within six to nine months. The proposal stipulates that each of the three interim stages would remain in effect for a testing period lasting a number of weeks.

Israel would use these periods to review the effects of the partial pull-back and to reexamine the chances of a negotiated accord.

The plan may be implemented unilaterally by Israel if no agreement can be reached with the Lebanese on the policing of the areas to be evacuated by the Israelis.

Lebanon for its part has let it be known that, in return for a detailed Israeli plan of withdrawal, it will be prepared to reconsider its position on the expansion of the area of operation of the United Nations Interim Force in Lebanon (Unifil).

Israel is expected to attend at least one more session of the military-level talks with the Lebanese, held under UN auspices at Nakoura in southern Lebanon. Israel suspended its participation last Monday, declaring that there was "nothing left to talk about."

Mr Brian Urquhart, the UN under secretary general, is due here today in search of an agreed solution to the impasse over the redeployment of Unifil.

LEBANESE ARMY soldiers have been deployed south to about 5km north of Israeli positions along the Awali River in a delayed security plan aimed at opening the coastal road and pacifying the embattled Iqlim al Kharroub region, writes Nora Boostany in Beirut.

About 1,700 soldiers headed south on Saturday and took up positions as far south as the coastal towns of Jiyeh and Rmeileh and, 15 km inland, the southern tip of the Chouf Mountains overlooking the Mediterranean.

The removal of militia checkpoints from the southbound highway and the positioning of Lebanese police, the internal security force, in hilltop villages in the Kharroub, are the preliminary stages for the establishment of a future wider role for the Lebanese Army in conjunction with United Nations trops once Israeli forces pull out of Lebanon.

The successful deployment of the army, which was welcomed with showers of rice and flower petals, was overcast by an atmosphere of gloom in the capital, where a series of car bombs and explosions killed at least two people and injured many others over the weekend.

Nine people have died and 70 wounded in Beirut in the past four days.

Zimbabwe election will not be fair, says opposition

BY TONY HAWKINS IN HARARE

ALLEGATIONS that Zimbabwe's first post-independence elections due to be held in March or April this year will not be "free and fair" have been levelled by opposition parties following Mr Joshua Nkomo's enforced cancellation of an electioneering tour of the vital Masvingo province.

Mr Nkomo, leader of the Minority Zapu Party which has 19 seats in the 100-member Zimbabwe House of Assembly, encountered demonstrations by an estimated 30,000 supporters of Prime Minister Robert Mugabe's ruling Zanu-PE Party in Masvingo last week. Mr Nkomo's car was stoned and, he says, shots were fired by the Zanu-PF's demonstrators.

At the weekend, the Zapu leader said he had cancelled his campaign in the province on the advice of the police who had warned him that they could not guarantee his safety.

While this is the first such incident since Mr Mugabe said at New Year that he hoped to hold the elections before the April 19 anniversary *of inde*pendence, it is a repetition of demonstrations last year by government supporters against the minority opposition groups. In June, the Government imposed a three-month long ban on Zapu meetings in two provinces following violent demonstrations against the party by Zanu-PF militants.

Speaking at the weekend, Mr Nkomo said it was plain that the elections would not be free and fair since "no campaigning is being allowed." Political observers here believe it is going to be extremely difficult for Zapu to campaign outside Matabeleland, which is Mr Nkomo's home ground

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WORLD TRADE NEWS

UK a front runner for Indian gun contract

By John Elliott in New Delhi

AUSTRIA, France and the UK have emerged as front runners for a £700m defence order likely to be placed soon by the Indian Government for 155mm Howitzer gun systems.

A senior Indian Army general said at the weekend that final negotiations are to start later this month. The guns were needed to counter armaments supplied to neighbouring Pakistan by the U.S., he said. They would have to penetrate 50 tonne tanks that had been acquired "by neighbouring countries" said Lt Gen J. R. Malhotra, Director of Artillery.

Austria's Voest Alpine GNN45 155m gun has won favour because it has an extended barrel and is said to be able to shoot over 39km, which is significant on India's border—the Pakistan city of Lahore would come within that range.

The Austrian gun is also believed to have found political favour in negotiations last year which were halted, along with talks on many other contracts, following the assassination of Mrs Indira Gandhi, the Prime Minister, on October 31. That political advantage may no longer be the case now that negotiations are taking place with the new Indian Government.

Four countries remain in the race for the order, which initially will involve selling guns and ancillary equipment made abroad and then setting up licensed production in India.

Initial tenders last year envisaged the supply of 400 guns and systems from abroad complete with computer controls, towing vehicles and ammunition totalling about £700m. But the initial order might be smaller because of lack of funds. Ammunition is believed to account for more than half the estimated cost.

Lieut General Malhotra said that artillery systems made in the Soviet Union, which tries to be a major arms supplier for India, had "not come up to the operational specification of the Indian artillery."

The UK system is based on the Vickers FH70 field gun, produced jointly with West Germany and Italy. It is being marketed in India by the British Government-owned International Military Services.

Anti-pollution contract for Davy

BY JOHN DAVIES IN FRANKFURT

DAVY McKEE, the UK-based engineering concern, is to build a desulphurisation plant for the controversial Buschhaus power station in West Germany under a contract worth about £85m.

The newly-built 350 mW power station at Helmstedt, near the East German border, has been at the centre of a fierce pollution debate. The Bonn Parliament was recalled to discuss the issue last July and voted to allow Buschhaus to start up without a desulphurisation plant to cut its pollutant emissions, provided such a plant was added by mid-1987.

Davy McKee's desulphurisation plant order is one of the largest orders ever obtained by the group's West German operation.

The contract involves desulphurisation not only at Buschhaus but also of a unit of a nearby power station, Offleben II. It will use the Wellman-Lord process, which until now has been applied mainly in the U.S. and Japan. The end product, about 85,000 tonnes of sulphur a year, will be marketed by Braunschweigische Kohlen-Bergwarke (BKB), the plant's operator.

The desulphurisation plant will have to contend with brown coal with a high sulphur content and to meet stringent emission controls.

Davy McKee recently won an order from BASF, the chemical group, to apply its Wellman-Lord process to reduce sulphur dioxide emissions from a coal-fired power station at the chemical complex at Ludwigshafen. The end product here will be sulphur dioxide, which BASF will diversify into chemical uses.

The Buschhaus power station was planned in the 1970s when environmental issues were less politically sensitive. The Government of Lower Saxony has strongly backed the project as it will extend the life of BKB and provide jobs in the Helmstedt region, which is heavily reliant on BKB for its prosperity.

Environmentalists, notably the Green party, have argued that Buschhaus should not come on stream until it has a desulphurisation plant attached, but supporters of the project argue that conditions agreed by Parliament last July will reduce existing pollution in the area once Buschhaus comes on stream, even before it has a desulphurisation plant.

Nigeria starts to issue 1985 import licences

BY PATTI WALDMEIR IN LAGOS

THE NIGERIAN Ministry of Commerce and Industry has begun issuing import licences for 1985. Interim licences for for 1985. Interim licences for the for grain imports for the country's flour milling industries.

But Lagos businessmen fear that the bulk of 1985 licences for less politically sensitive imports (bread is an important item in the diet of Nigeria's large urban population) may not be issued for several weeks.

The validity of 1984 import licences has been extended to the end of February to help exporters whose shipments were disrupted by the dismissal of Nigeria's shipments inspectors, SGS, in September. But businessmen expressed concern that recent changes in the procedure for allocating foreign exchange for imports could cause further delays in 1985.

Major General Muhammadu Buhari, the head of state, announced when presenting the 1985 budget on January 1 that the system of allowing the country's banks to allocate foreign exchange for imports directly to their customers would be abolished.

All applications for foreign exchange (forms M) must now go to the central bank for approval, a move which will place an added burden on the central bank's already strained administrative capacity and could lead to significant delays.

Merchant banks welcomed the change, however, saying that it would remove certain restrictions which had hindered competition among banks. Under the previous system long-established commercial banks were given large allocations of foreign exchange, which often exceeded the confirming credit line which they could obtain from overseas correspondent bank.

Italian exports boost

BY JAMES BUXTON IN ROME

ITALIAN exporters have received a useful boost from the Government decision to liberalise the terms for the finance of exports denominated in Italian currency.

Until last Saturday exporters who priced their goods in lire and allowed their customers up to 360 days' credit had to finance 50 per cent of the operation in foreign currency. The Ministry of Foreign Trade has now agreed with the Bank of Italy, to reduce this figure to 25 per cent.

The reduction will be particularly welcome for companies which have found banks sometimes unwilling to make the foreign exchange available because of their own foreign currency borrowing limits.

The aim of the foreign exchange financing requirement, which came into force at a time of economic crisis in late 1982, was to boost Italy's foreign currency reserves.

SHIPPING REPORT

Freight rates fall as dry cargo market weakens

BY ANDREW FISHER, SHIPPING CORRESPONDENT

AFTER ENDING 1984 virtually flat compared with the previous year, freight rates turned down last week. The Russians and Chinese took more ships for grain imports, but the dry cargo market weakened none the less.

The grain rate from the U.S. Gulf to the European continent fell sharply to $8.40 a ton. In December, it was around $9.25 a ton. Denholm Coates also reported that the Pacific grain rate to Japan was as low as $8.25, before moving back to $9.

"Even some bulid-up in port congestion does not seem enough at the moment to bring an over-tonnaged market into equilibrium," according to the London shipbroking company. "Basically, there are just too many ships," it said, repeating an all too familiar lament among the shipping community.

There was some increase in ore market business at the end of the week but much of the information about fixings was kept secret, an increasing trend in shipping markets these days. Some coal business was also believed to have been transacted.

In the oil markets, rates were also more or less static.

As in past weeks, shipping markets were ruffled by more tales of corporate woe. Attention was drawn to the high debts of Zim, the Israeli container and bulk carrier concern.

Coming in the wake of the failures late last year of Saleninvest in Sweden and Irish Shipping, and the need by France's Gazocean to change totally its costly charter arrangements with other owners, it re-emphasised the fact that shipping remains in a highly fragile state.

Ericsson satellite deal

BY DAVID BROWN IN STOCKHOLM

L. M. ERICSSON, the Swedish telecommunications and electronics group, and Valmet, the diversified Finnish industrial group, will share an order worth SKr 35m (£3m) from the Swedish space corporation to provide a TV uplink station for the Nordic Tele-X satellite project. The project has booked a February 1987 launch with the Ariane rocket.

The contract is part of the total SKr 200m earth segment of the satellite project, which also includes an SKr 165m contract for a master control centre and about 50 customer-based earth stations.

The control centre contract—for a single channel per carrier (SCPC) digital system—is being shared equally between Ericsson and its Elektrisk Bureau of Norway. Ericcson is also prime contractor for the SKr 300m satellite payload.

Pentagon 'to review' high tech exports

By Our Washington Staff

PRESIDENT Ronald Regan has given the Pentagon the authority to review all licences for exports of high technology equipment to 15 non-Communist countries which might reship the products to the Soviet Union, it was reported at the weekend.

The directive settles in favour of the Pentagon a long-running battle between the Commerce and Defences Departments over high technology licensing. The two departments have worked out a memorandum of understanding about power-sharing and licensing, but the Commerce Department was belived to be dragging its feet on signing it, in the hope that Congress would settle the issue to its advantage with the passage of an Export Administration Act.

Congress itself was deeply divided over whether to give more prominence to national security or trade policy and could not agree in its last session over renewal of the Act, which gives the President certain authority over strategic trade.

Congress will push for a new Act in the next 60-90 days, but meanwhile, the President has stepped in to resolve the dispute. The Washington Post reported that a directive, signed by Mr Robert McFarlane, the National Security Adviser, gives the Pentagon review powers over computer parts, scientific instruments and other equipment believed to have military uses. The list of 15 countries may ultimately change as circumstances require.

The Pentagon now has the authority to tap into the Commerce Department computer to review licence applications, including distribution licences which permit the export of an entire category of goods to several countries.

Reuter adds from Tokyo: Japan will tighten controls on the sale of new items including ceramics equipment for making and testing printed circuit boards and large floating docks to the Soviet bloc from mid-February, officials said.

Growing U.S. trade deficit prompts import tax study

BY NANCY DUNNE IN WASHINGTON

A PROPOSAL to impose a three-year import surcharge on all manufactured goods and oil may get serious consideration in Congress if the U.S. economy slows and the trade deficit seems likely to exceed $150bn this year.

The Senate Finance Committee began discussion of an import tax last year, and, despite lack of open support, has asked the influential Congressional Budget Office (CBO) to analyse the impact of various surcharge options.

One plan, backed strongly by Motorola, the electronics company, and presented at a recent meeting of the National Association of Manufacturers (NAM), calls for a three-year import surcharge, to be set at 20 per cent during its first year, 15 per cent in the second and 7 per cent in the third year. Mr John Mitchell, President of Motorola, told the NAM that exceptions would be needed for some of the less developed countries.

NAM, one of the first organisations to express concern about the effects of the strong dollar on exports, has now formed a working group to evaluate the merits of a surcharge. It may also ask the Electronics Industries' Association to consider the proposal.

The import surcharge, says its advocates, would raise between $80bn to $100bn over three years for the U.S. Treasury and combat both the budget and trade deficits. They claim that the strong dollar in effect gives a 25 per cent subsidy to Japanese producers and a 30 per cent subsidy to West German goods, and a surcharge would go some way towards equalising those advantages.

In a presentation which officials called "sobering," Mr Mitchell discussed a study by Data Resources Inc., showing the U.S. budget deficit climbing to around $400bn by 1990. If no corrective action is taken, he said, more and more U.S. companies will shift their production overseas and then export to the U.S.

The domestic machine tool industry, which has sought protection from the Administration on the grounds that it is vital to national security, is said already to be threatening to move its manufacturing offshore if the White House fails to stem imports.

In 1971 President Richard Nixon imposed a 10 per cent across-the-board import surcharge. The Council of the General Agreement on Tariffs and Trade found the tax "not compatible with Gatt" and it was revoked four months after its introduction.

Article 12 of Gatt, however, allows the limiting of the "quantity or value" of imports in cases of balance of payments problems, and the Trade Act of 1974 gives the President the power to impose an import surcharge "to deal with large and serious U.S. balance of payments deficits." The authority, however, is for a surcharge of no more than 15 per cent to last no more than 150 days.

The Senate Finance Committee has asked the CBO to assume that no retaliation would be forthcoming from U.S. trading partners. The CBO is likely to ignore that request however, and to present additional studies considering the effects of retaliatory action.

WORLD ECONOMIC INDICATORS

FOREIGN EXCHANGE RESERVES (U.S.$m)

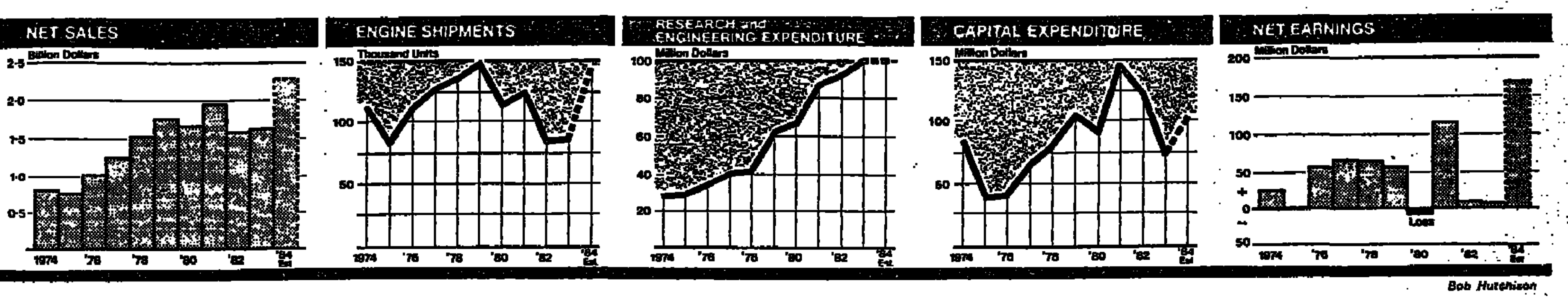
	Nov. '84	Oct. '84	Sept. '84	Nov. '83
U.S.	6,263	6,317	6,036	6,914
UK	6,812	6,798	6,622	8,776
Japan	22,021	21,712	21,436	20,161
W. Germany	35,471	35,957	35,722	37,907
Italy	19,995	18,746	18,389	18,337
Belgium	3,631	3,905	3,692	3,843
Netherlands	8,004	8,121	8,153	8,707
	Oct. '84	Sept. '84	Aug. '84	Oct. '83
France	20,403	20,278	20,215	18,702

Source: IMF

THE MANAGEMENT PAGE

EDITED BY CHRISTOPHER LORENZ

HENRY B. SCHACHT



Bob Hutchison

Cummins' long-term view comes good

Ian Rodger assesses the outcome of the U.S. diesel engine maker's financial gamble on its core business

VIRTUE is rarely rewarded quickly, if at all, in the heavy manufacturing industries these days. But it now looks as if Cummins Engine, the leading U.S. diesel engine maker, is going to see a bigger and faster payback than expected from its brave commitment in the past few years to long-term development.

The acquisition of International Harvester's farm equipment business by its competitor, J. I. Case, last year provides an unexpected double boost to Cummins.

- It improves the survival prospects of IH, whose heavy trucks are the most important single market for Cummins engines.
- It will help a new $350m Case-Cummins joint engine venture, Consolidated Diesel Co., become profitable much faster than planned. This is because Case will gradually shift the sourcing of engines for IH farm equipment to CDC.

No doubt, Cummins was lucky that the Case-IH deal happened. Only a few months earlier, Tenneco, Case's parent company, was talking of abandoning the depressed farm equipment industry, a move that would have had a very negative impact on CDC.

But Cummins officials argue that they have worked hard for their luck, and they believe that if it had not come in one way, it would have come in another. And they are probably right. Starting in 1976, the company adopted a bold strategy, deciding to give up efforts to diversify and to concentrate instead on its engine business, even though the growth prospects there were very modest and the competitive conditions daunting.

Cummins's main U.S. rivals are General Motors and Caterpillar Tractor, while in Europe it is up against Daimler-Benz, Volvo and Fiat's Iveco subsidiary, all of which make their own engines rather than buy them in.

But the directors figured they could continue to achieve satisfactory growth and profits from engines, in spite of the apparent obstacles. They concluded, rightly as it turned out, that the key characteristics of the 1980s would be depressed markets for the main diesel engine buyers, the makers of vehicles and various types of industrial equipment, and, consequently, serious overcapacity in the engine sector itself. And they reasoned that the ways to succeed in that kind of environment were to have the most up-to-date engines and to produce them more economically than their competitors.

Since 1977, Cummins has invested considerable management effort and about $800m, more than double its net worth, in achieving those goals. At various times along the way, especially as the company's markets and profits slumped, strong doubts were expressed about the wisdom of its ambitious spending programme. The Cummins share price slumped from a peak of $59 in 1981 to a low of $26 in 1982, but the directors decided to hang on.

"If you're in the capital goods business, you do what you have to do," Henry Schacht, Cummins' chairman, says calmly now that the squeeze on the company's resources is over.

Cummins' net earnings bounced back to record levels last year after the company only barely managed to break even in 1983. By the end of the third quarter of 1984, it had piled up earnings of $149.5m, more than it had ever made before in a full year and the share price has risen to a new peak of over $81.50.

Schacht says the results reflect mainly the effect of the company's cost cutting since volumes, while very strong, have not reached exceptional levels. But he also acknowledges the impact of a strong recovery in the U.S. heavy truck market. "If someone was looking for a way to help us recover, he really hit the bullseye.'

The real excitement has been in the engine development programme. Cummins set out in 1976 to revamp its entire product line and to expand its range downwards with the development of a new series of 10-litre engines with power from 220 to 330 horsepower.

The idea was to incorporate improvements in diesel technology, such as turbocharging, in engine design so that greater fuel efficiency and economy would be achieved. For example, the 10-litre matches the power of some versions of the company's old workhorse 14-litre engine, but it weighs a third less and consumes much less fuel.

The 14-litre itself, which dated from the 1940s, was to be replaced, but the company decided last year after completing the development of a new version, that it could achieve nearly the same results by modifications to the existing engines, and so shelved the new one.

The 10-litre project was aimed largely at protecting the bottom end of the 14 litre's heavy truck market while giving the company an entry into the bus and coach area.

Cummins also hoped it would sell well in European markets. Cummins had expanded into Europe in the 1950s expecting to benefit from the same trends in freight transport—a shift from rail to road and the growing popularity of huge juggernauts—that it was enjoying in the U.S.

Those trends were indeed present in Europe, but European truck users never felt a need for Cummins' huge 14-litre engine, and the company has never made much headway there. It hoped the 10-litre would change that and, since its introduction in 1982, the company has made impressive progress.

However, the UK is a fairly easy market to penetrate. Independent truck builders, such as ERF, are always ready and willing to try out new engines. Most continental builders tend to make their own and so it is more difficult for Cummins to break in.

Meanwhile, in 1978, the company was approached by Case with a view to developing a series of 50-250 hp engines for Case's farm and construction equipment.

Cummins had long wanted to start making engines of this size, but was stopped by the difficulty of penetrating the already overcrowded markets for them. Deutz of West Germany and Perkins of Britain, part of the Massey-Ferguson farm equipment group, have major shares and worldwide service networks, but dozens of other companies that make engines mainly for their own use also sell some in the open market. Ominously, a few Japanese producers, such as Isuzu and Nissan are gaining ground.

Cummins knew it would take a long time for it to build up a useful share in this sector. Effectively, that meant it could not afford to enter without a significant volume customer lined up in advance. Company officials tried for years to convince various manufacturers that they would be better off abandoning their own engine production and buying from a specialist. Suddenly, to their surprise, Case agreed, and even though it was heavily committed to its exisiting development programmes, Cummins knew it could not turn down the opportunity.

The two soon decided on the CDC joint venture and a range of engines that would suit both Case's needs and Cummins's ambitions. The main objective was to be able to produce the engines as inexpensively as possible. This was done partly by reducing the number of parts in the engines and partly by automating production. More audaciously, the two went for economies of scale.

The first of the engines went into production late in 1983, but so far they have not attracted any large customers other than Case. In fairness, Cummins officials did not expect a rapid build-up in demand. They knew that producers of compressors, excavators, fork lift trucks and other equipment would look long and hard before switching from proven suppliers. They also hoped to convince delivery van operators in the U.S. to switch from petrol engines, but that, too, would take a long time to bring about.

And therein lies the importance of the Case-IH deal. IH sells about 40,000 tractors and combine harvesters a year. Now almost all of its engines come from other IH plants. But Case has not bought any of the IH engine plants and, while it has not said so publicly, there is no doubt that it is going to put CDC engines into the IH farm equipment as quickly as it can.

CDC is set up as a cost sharing partnership, so the main benefit to Cummins of the increased volume will be a more rapid reduction in unit costs than expected. Joe Phillippi, an analyst with New York stockbrokers E. F. Hutton, estimates that if CDC were a profit centre, the impact of the IH volume would be to bring forward its break-even point by about a year to the second half of 1986.

That's the sort of good fortune that would make a company think it could pause and reap some rewards, but Cummins is already embarked on a fresh challenge—beating the Japanese.

"The Japanese are setting new standards for this industry and, darn it all, we are going to match them," says Schacht.

Investing patiently

THE HAPPY outcome of the Case-Cummins venture will come as no surprise to those familiar with Cummins. The company's initial success came from investing patiently for the long term.

It was set up in 1919 in the sleepy little town of Columbus, Indiana, when the Irwin family, which dominated the town, backed a local inventor, Clessie Cummins, in his enthusiasm for diesel engines.

Cummins tried everything to promote the qualities of the diesel, once even entering the Indianapolis 500 car race in which he was placed third because he never needed to refuel. But gasoline was plentiful and inexpensive in those days and no one was interested in fuel economy. The company suffered continuous losses for 20 years.

However, virtue paid off with the outbreak of war. The U.S. military was very interested in the simplicity, durability and fuel economy of the diesel, and Cummins's fortunes soared. More important, this popularity carried over into the post-war period.

The next 20 years were glorious for Cummins as the Interstate highway system was built and freight movement shifted massively from the railways to the roads. Moreover, the company had very little competition. "Truck manufacturers never saw the diesel as very interesting, so we won by default," Mike Howell, vice president, corporate strategy, says. The company also moved confidently round the world in this period, setting up a major manufacturing base in Britain and joint ventures in Britain, West Germany, India, Mexico, Brazil and Japan.

By the late 1960s, the rapid growth phase of the U.S. heavy truck market was coming to an end. Also, Cummins was not finding the same easy success abroad that it had enjoyed at home. The

The diversifications were not successful, and the amount of management time spent on them soon began to hurt the core business. Most were sold, and the company is still wary about trying again.

"Our record is not very good," Schacht says. "If we do diversify, it will be into related things."

Management abstracts

Learning to Love the Service Economy. I. D. Canton in Harvard Business Review (U.S.), May/June 1984.

Taking the example of the automotive components company Borg-Warner's move into dealer financing, examines the opportunities for manufacturing companies to diversify into service sectors and explores routes by which they can use their own assets, resources and knowledge to gain entry.

Warehouse Design. D. P. F. McKenna in Focus on Physical Distribution Management (UK), May/June 1984.

Examines considerations in warehouse siting and design to fulfil its functions of input, storage and output; stresses the dominant feature of working height and its relationship to cost, with notes on space heating/office siting and discusses the facilities necessary for fully- or semi-automated storage and other control systems.

Human Resource Strategies in an Organisation Downturn. L. T. Perry in Human Resource Management (U.S.), Spring 1984.

Contends that every organisational downturn invites two related waves of employee defection — abandoning ship when survival seems doubtful, and exits timed to coincide with remedial action, because of reduced career opportunities. Gives examples of the Continental Illinois Bank and the Intel Corporation (microelectronics), and suggests collective managerial strategies to reduce organisational uncertainty and increase career chances.

International Market Research. G. van der Most in European Research (Netherlands) July 1984.

Argues that market research for internationally sold industrial products should not be confined to the country of origin, but should take account of international markets served; discusses the characteristics of international research, examines its difficulties — language, market/social differences, and government constraints — and survey methodology.

These abstracts are condensed from the abstracting journals published by Anbar Management Publications. Licensed copies of the original articles may be obtained at £3 each (including VAT and p+p; cash with order) from Anbar, PO Box 23, Wembley HA9 8DJ.

UK NEWS

Quarter of gas needs 'may have to be imported'

BY ANDREW GOWERS

THE GOVERNMENT believes that Britain may need to import about a *quarter of its natural gas needs* by the end of the century, according to a memorandum submitted by the Department of Energy to the House of Commons energy committee.

This estimate is at the top end of a range deduced from a series of projections of natural gas demand and likely supplies from the UK *continental shelf to* the year 2000 and beyond.

It is higher than a forecast produced by the British Gas Corporation, and publication of the Government's estimates could well fuel the row between the corporation, the Government and the oil industry over imports of gas from Norway's Sleipner field.

British Gas has been arguing strongly that it needs large quantities of Sleipner gas to fill a gap between UK supply and demand in the 1990s, but the Government has been blocking approval of the deal, and at least one large oil company maintains that Britain could be self-sufficient in gas at the end of the century.

Forecasts are bound to contain more than an element of inspired guesswork when they depend on imponderables such as the likely level of oil prices and future economic growth. The figures, however, do imply a possible domestic supply and demand through the 1990s.

The department's projections put gas demand between 14.6bn and 20.4bn therms in the year 2000. Its central estimate for supply from the UK continental *shelf* in that year is 13.91bn therms.

As the department indicates that this figure is based on an estimate of "the rate which new and existing discoveries (particularly conden*sate discoveries) are* brought on stream," it does not suggest great optimism about development of UK gas.

It contrasts starkly with British Gas's own estimate for supplies from the continental shelf in 2000 of 16.54bn therms.

Onshore gas search, Page 6

Hattersley plan seeks repatriation of funds

BY PETER RIDDELL, POLITICAL EDITOR

INVESTING institutions would lose their present tax advantages unless they significantly reduced overseas holdings and put some of their money into a proposed state investment bank, according to a plan put forward by Mr Roy Hattersley, the Labour Party's chief spokesman on financial affairs.

His proposals, which are to be put to Labour policy committees, aim to achieve the repatriation of a substantial amount of the £20bn portfolio investment which has left the UK since the ending of exchange controls in 1979.

They seek to deter further outflows and make money available for industrial investment projects which, Mr Hattersley says, cannot find finance from the City of London.

*Until now Labour has been com*mitted to the restoration of exchange controls, but Mr Hattersley argued that bringing back the pre-1979 system would be impossible, partly because of pre-emptive exports of capital. Mr Hattersley said he did not want to impose currency restrictions on holidaymakers and foreign travellers.

The new investment bank would offer low interest rate investment for private sector projects. Institutions would be given a choice of tax regime: "Those which elect to observe the criteria will enjoy the fiscal privileges which they presently possess. The net effect of the scheme is that the tax privileges enjoyed by institutions which invest in Britain will raise the net return on their portfolios above that received from foreign investment."

Japanese engine setback for BL launch

By Arthur Smith, Midlands Correspondent

THE LAUNCH of Austin Rovers' new executive car, code-named the XX *has* been delayed by *more than* six months because of problems with a new engine to be supplied by Honda of Japan.

Testing of the Honda V6 engine threw up faults which required a new configuration and a consequent redesign of the car's front end. The sale in Britain of BL's top-of-the-range model was originally scheduled for autumn 1985, but has now been put back to early summer next year.

The delay is another blow for the state-owned concern in its battle to boost sales and prove its commercial viability.

UK dealers, concerned at the slowdown in sales of the now-age*ing big Rover saloon are anxious* for a replacement: output at the Cowley assembly plant has been cut progressively in the past year. Production of 400 cars a week is down by about half.

The XX is equally important to Austin Rover's efforts to expand overseas markets and reduce dependence on the low-growth UK. The assault on the important U.S. market for which the new car is essential must now be put off until 1987. The delay will also blunt efforts to improve penetration in continental Europe.

The XX will offer either an Austin Rover "O" series two-litre engine or the new Honda V6 2.6 litre. *There will be competing* Austin Rover and Honda badge versions of the XX, with largely cosmetic differences. Austin Rover will assemble both versions at Cowley for sale in the UK and continental Europe.

Honda is to make both versions in Japan for its home market, Australia and the Far East.

Austin Rover is thought to need to sell around 650,000 cars a year to generate the profits to finance new investment. Sales in 1984 were a disappointing 423,000, which caused a trading loss of more then £10m.

Sales this year of around 435,000 – at least a UK market share of 19 per cent – might be enough to start to trade profitably because of the low cost base. However, the company has set more ambitious internal targets and has told dealers it is looking for 22 per cent.

John Moore reports on London's biggest underwriting losses since the Sasse affair

Lloyd's syndicate faces £21m deficit

HISTORY OFTEN repeats itself at Lloyd's, the London insurance market. Nearly five years since the notorious Sasse affair reached its climax another small group of underwriting members of the Lloyd's community is facing remarkably similar problems, although different in detail.

In the earlier affair 110 underwriting members faced losses of £21m. Last weekend about 230 underwriting members of Britain's premier insurance market were warned that their total losses could also amount to nearly £21m. They are the most serious trading losses encountered by a group of under*writing members since the Sasse* troubles.

At the weekend more than 230 underwriting members were studying an eight page report and detailed figures from managing agent Spicer and White, which looks after its affairs. It made grim reading.

The members, including tennis *stars Mark Cox and Virginia Wade*, were told that their investment in insurance syndicate 895 was making heavier losses than expected and that total losses over three underwriting accounts could amount to £20.6m. Moreover, there was no certainty that the losses would stop there.

"Until fully audited accounts to December 31 1984 become available in April 1985 we cannot determine whether the accounts will have deteriorated further," the agent said.

In October 1983 the agency anticipated that the losses might not be more than £13m for the underwriting accounts, but since then the problems have steadily mounted.

For the individual underwriting members who form the syndicate the matter is extremely worrying. Like all members of Lloyd's they have joined the market accepting the principle of unlimited liability. They pledge the entirety of their wealth, which provides the capital base of the Lloyd's market, in return for a share of the profits. If things go wrong they are expected to meet insurance claims from their personal resources.

Like the majority of Lloyd's members these individuals do not work in Lloyd's and have no knowledge of the technical aspects of insurance. They are the investors and trading is carried out on their behalf in the market by professional underwriters.

Those that formed syndicate 895 have been told that for every £20,000 of insurance business accepted on their behalf they face losses of £91,830 if they were members over three underwriting accounts. That amount has to met out of the underwriting members' resources.

A lawyer involved in unscrambling the affair for the underwriting members said: "We are beginning to get some real sob stories now." Another Lloyd's professional said: "Lloyd's runs very well when things are going right but not so well when things are going wrong."

The background to the Spicer and White affair has been outlined in a series of reports sent to the underwriting members since 1983, when the agency underwent a management shake-up. Until 1980 the syndicate, which had been in existence for many years, specialised in accepting risks in specialist areas of the marine insurance market.

It was an essentially cautious portfolio of business which had been built up by the then underwriter, Mr John White. When Mr White planned his retirement a new underwriter was brought in from the *company market* – Mr Bryan Spencer, who had worked for the Eagle Star.

Mr Spencer became deputy underwriter in 1978 and underwriter in 1980. In the late 1970s the traditional business of the syndicate was under attack from increased competition from overseas insurance markets. The syndicate, with its new underwriter, decided to become more aggressive in its pursuit of business, but the quality of the business accepted, the agency told the underwriting members, "turns out to have been exceptionally poor."

Moreover, in its drive for business the syndicate took on more business than it was entitled to under Lloyd's limits, which relate business volumes to underlying underwriting capacity. At one stage the syndicate was accepting business at more than twice the level allowed by Lloyd's limits. Premium income for the syndicate climbed from £1.5m in 1979 to nearly £11m at the end of 1982.

There were other problems. As in the Sasse affair, where there were 110 members of syndicate 762, a large proportion of the syndicate's business was generated by outsiders. Those responsible for the day-to-day underwriting had authorised overseas agents, particularly in the U.S. and Canada, to produce business for the syndicate under a binding authority arrangement.

Although much business can be generated in this way individual syndicates have little control over how they are operated. The agency told the underwriting members last week: "We are experiencing difficulty in obtaining detailed records from various agents in the United States about the exact nature, date of inception and expiry of these policies.

"Because information about the *underwriting under these binding* authorities is not adequate, it is difficult to predict the claims settlements."

Top insurance investigators Robert Bishop Adjusters have been appointed by the agency to find out how these binding authorities have been used.

One other problem has hit the syndicate. In securing more business the syndicate laid off some of its risks with a range of reinsurers, in much the same way that a bookmaker lays off his bets. Unfortunately for the syndicate some of the reinsurers have been paying claims across to the syndicate very slowly, which has worsened the cash position of the syndicate.

So far investigations are continuing by the new management of the syndicate into what happened. Lloyd's itself has held a private inquiry into how some of the business for the syndicate was placed through certain Lloyd's insurance brokers but its findings have never been made public.

In the Sasse affair Lloyd's decided to meet the obligations of the syndicate through mounting a rare market rescue after it admitted that underwriting members had justifiable grounds for complaint over the way their business was handled. Syndicate 762 had been stuffed with poor quality insurance business from the Harlem area of New York and had over-traded.

Those responsible for producing *business for the syndicate in the* U.S. are serving prison sentences in America for their involvement.

The affair triggered a programme of reform at Lloyd's.

No rescue for syndicate 895 is planned by Lloyd's, although at the moment Carter Wilkes and Fane and Willis Faber, the two parent companies of the agency, and the agency itself are attempting to arrange a loan facility for the members to help them meet their obligations.

TUC expects move to break coal deadlock

BY BRIAN GROOM, LABOUR STAFF

SENIOR Trades Union Congress (TUC) leaders believe the time may be right this week or early next week to begin another effort to get the National Union of Mineworkers (NUM) and the National Coal Board (NCB) round the negotiating table.

They believe that the NCB's drift-back strategy is not working. Even on NCB figures, last week's total of 2,364 miners returning to work, for the first time since the strike began, although the highest since November, leaves 62 per cent of miners on strike.

TUC leaders concede, however, that a row over the probable expulsion of the NUM's Nottinghamshire (Notts) area may tempt the NCB and the Government to sit back and see if the union disintegrates. The strike has had least impact in Nottinghamshire where a majority of miners have been at work during the 10-month-old dispute.

The NCB is encouraged by the NUM executive's decision that the full executive would take part in any further negotiations.

The NUM is sticking to its refusal, however, to accept pit closures on economic grounds, and the board has so far refused to resume talks until the union's stance changes.

Terex rescue talks to centre on restructuring proposal

BY MARK MEREDITH, SCOTTISH CORRESPONDENT

TALKS BEGIN in London this week to try to reassemble the Terex Corporation, one of the leading producers of big off-the-road construction equipment.

First Boston, the U.S. bank, will draw up a business plan to reunite the Terex plants near Glasgow in Scotland and at Hudson, Ohio. The two plants were separated with the collapse of their parent company, Herr Horst-Dieter Esch's IBH Holdings, late in 1983.

General Motors, which first sold Terex to IBH in 1980, took back its plant in Scotland after the receiver was called in. The U.S. plant continued to operate under Chapter 11 bankruptcy laws, which protect a company from creditors.

Last week Terex in Ohio and First Boston announced a proposal to get the U.S. plant out of the bankruptcy courts and back into worldwide operations.

The plan has the support of General Motors, which has made clear that it did not want to get back into the business of making heavy construction equipment. Under the restructuring proposal, however, it will retain ownership of the property in Scotland and the U.S.

That will enable Mr John Laeri Jr, managing director at First Boston, to bring down the cost of the eventual Terex deal he plans to put to investors. Mr Laeri said last week he hoped to complete the restructuring within the year.

The market remains weak. The number of large-scale civil engineering contracts of the kind requiring the range of big 20 to 105-tonne articulated trucks, front-end loaders, scrapers and bulldozers is limited. Competition is severe from Komatsu of Japan and Caterpillar, the market leaders.

UK NEWS

Ford's UK tractor unit to boost investment

By Andrew Gowers

FORD Motor Company's British tractor division hopes to step up investment aimed at boosting revenue and cutting manufacturing costs this year, to improve agricultural equipment sales profitability.

Mr Geoff Tiplady, executive director of Ford's tractor operations, said the move, which would involve changes in Ford's worldwide system for sourcing tractor components and could mean the creation of new jobs in Britain, was the subject of "delicate negotiations" within the group. He hoped to be able to make an announcement within the next three months.

Ford has invested more than £80m in new manufacturing facilities including the introduction of robots at its UK tractor base in Basildon, Essex, since 1979. Mr Tiplady said the company was investing at a rate of about £10m a year.

According to figures from the Agricultural Engineers Association, UK tractor registrations last year totalled 25,313 units, 10.6 per cent below their level in 1983.

Mr Tiplady said Ford's UK market share, while still the largest, dropped nearly three percentage points to 23.3 per cent. He attributed the fall in the first half to the company's efforts to reduce price discounting during that period. He declined to predict tractor sales this year, but said they would undoubtedly fall off sharply in April as farmers react to a change in tax allowances for capital investment.

Production at Basildon was 28.5 per cent up last year, Mr Tiplady said, reflecting the buoyancy of UK exports to countries such as the U.S., Pakistan and Turkey. Exports of tractors and component packs totalled almost 53,000 units, 37.7 per cent above 1983.

Faced with the likely stagnation of world tractor sales this year, Ford's strategy is to secure sales by seeking overseas joint ventures, to try to sell more engines and components and to look for efficiencies in manufacturing.

The main uncertainty in the world tractor market concerns Tenneco's plans to merge the operations of its subsidiary J.I. Case and International Harvester's farm machinery interests, which it agreed to take over in late November.

Oil groups plan biggest onshore oil search

BY DOMINIC LAWSON

OIL COMPANIES are planning the busiest year so far in their search for oil in Britain. More than 100 wells are likely to be drilled on shore, according to Petroleum Information, the research organisation.

Last year the industry drilled a record 45 wells against a planned total of 87 wells. Petroleum Information said the drilling programme was reduced because of "planning hurdles erected by environmental lobby groups."

The surge in drilling predicted this year is likely to cause further friction between the oil industry and environmental groups.

British Petroleum (BP) is once again set to be the most active onshore driller with up to 52 wells planned this year. Of those, 35 will be exploration wells and 17 development wells.

BP said recently that it planned to drill about 60 onshore wells in the UK every year for the next five years. Most of those will be in the East Midlands.

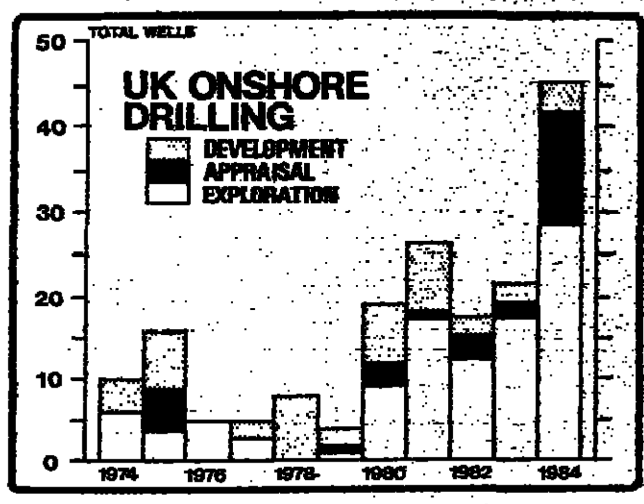
After BP, the most active company this year is expected to be Carless Capel & Leonard, the UK exploration company, which plans 20 wells, 10 of which will be part of the Humbly Grove development in Hampshire.

Conoco, the U.S. company that has had a run of exploration successes in central southern England, plans to drill seven wells in that area this year, according to Petroleum Information.

Drilling in Scotland is planned by Anvil Petroleum and Premier Consolidated Oilfields, and Anvil may also explore for oil and gas in Ulster.

Last year's drilling in the UK produced four oil finds and one gas discovery from a total of 24 exploration wells, a success rate of more than one in six. That compares well with oil exploration success rates anywhere in the world. However, it was a decline from 1983's success rate of eight discoveries from only 17 exploration wells.

The Government is soon to announce the first formal onshore licensing round. Previously, onshore oil and gas licences have been awarded on an ad hoc basis. The Government is expected to open up the entire land mass of the UK for offers to explore from the oil industry. However, most of the areas containing best prospects for discoveries are already under licence.



Providence deal expected soon

BY CHARLES BATCHELOR

PROVIDENCE Capitol Group, the British life assurance arm of the U.S.-based Providence Capitol, is expected to change hands for between £40m and £55m within the next few weeks.

Between 10 and 15 banks, insurance companies and other financial services groups from Britain, the U.S., France and the Far East are at present studying a sale prospectus drawn up by S. G. Warburg, the merchant bank.

The Providence sale, first announced by Warburgs in early December, is the latest in a series of upheavals in the UK life assurance sector. Hambro Life Assurance, Britain's largest unit-linked life company, agreed last month to accept a £664m takeover bid from BAT Industries, the tobacco-based conglomerate.

There has also been speculation that ITT, the troubled U.S. group, might put Abbey Life Assurance, the UK company created by Mr Mark Weinberg, up for sale.

"Providence is a more manageable size," Warburgs said yesterday. "The UK life sector is still one in which a number of people are interested despite the ending of tax reliefs for life assurance premiums."

Warburgs has based its projection of the likely sale price of Providence on a value twice the company's net value according to generally accepted U.S. accounting principles – the usual formula in such cases, it said.

It has also taken as a basis for its calculations the sale last year of Cannon Assurance by the Cascade group of Canada to Lincoln National of the U.S. for just over £40m. Cannon is similar in size to Providence.

Warburgs will shortly send details of an actuarial valuation of Providence Capitol Group being carried out by Tillinghurst, Nelson and Warren, consulting actuaries, to its short-list of potential buyers. This will include a series of values based on a range of interest rate levels.

Providence has a UK sales force of 570 working from 35 branch offices which could be used to promote other insurance products. It made an after-tax profit of £1.8m on premium income of £34.2m in the year to December 31 1983.

Providence Capitol Group was set up in 1968 as the life assurance arm of the Slater Walker conglomerate. Since then it has had a series of owners.

TECHNOLOGY

EDITED BY ALAN CANE

IN FLIGHT TELEPHONES FALL FOUL OF U.S. COMMUNICATIONS AUTHORITY

Airborne phone calls face cut off

BY GEOFFREY CHARLISH

TELEPHONING from airliners, which took a step backwards before Christmas when Illinois company Airfone fell foul of the Federal Communications Commission (FCC), may not fare too much better in Europe.

The FCC view is that the Airfone service, carried experimentally by six airlines in 22 U.S. aircraft during the Autumn of 1984, is something of a luxury, likely to be used by very few passengers.

The immediate problem on both sides of the Atlantic is frequency allocation. All the users of radio frequencies, from broadcasters to police forces, are hungry for more channels, so that the FCC in the U.S. and the equivalent regulatory bodies in Europe are wary of making allocations that might seem unneccessary.

Airfone is using frequencies in the 900 Mhz region and although the company's licence has been extended for a year,

The immediate problem on both sides of the Atlantic is frequency allocation.

the FCC's present position is that some or all of the frequencies will eventually go to TV and ground mobile radio.

But company secretary Sandra Goeken (whose father John Goeken heads Airfone) said the company will continue to gather data from the planes already equipped. "Telephoning from planes is not a luxury," she says, adding that the company will continue to press the FCC to change its mind.

According to Airfone, the service has been highly successful and there has been some adverse business community reaction to the FCC announcement. The company claims for *example, that of every 100* passengers carried, over 20 made calls. At Northwest Orient, which has seven aircraft equipped, 600 calls a day are being made, it is claimed. Airfone says that on average there are 1m passengers aloft over the U.S.

The U.S. airlines apparently see in-flight phones as a good way of selling seats and in the UK, British Airways says it has the idea under active investigation.

In Britain, an International Aeradio (IAL) spokesman revealed last week that Airfone held discussions with the UK company about 18 months ago. At the time Airfone was particularly interested in setting up in Canada. There would have been a joint venture, but the project was abandoned, due to regulatory problems. In Europe, it was felt there would be little chance of the national *regulatory bodies agreeing on* frequency allocations.

As with many new communications services, initial doubts about utilisation will probably evaporate eventually. Most new systems—telephones, radio broadcasting, television—were initially seen as novelties, only to become necessities within a decade or two.

It was thought that the capacity of the first submarine cable (only 36 channels, in 1950) would take several decades to be filled. Now such cables criss-cross the world's oceans carrying many thousands of conversations.

If the service proves useful and the price is right, it will be bought. Airfone charges $7.5/min for the first three minutes, $1.75/min thereafter and the pricing is claimed to be realistic, not introductory.

What is the European situation? An important difference *is that the distances involved* are shorter. No-one is airborne for more than two hours or so, whereas six or seven hours is commonplace in the U.S.

In Europe therefore, a businessman might opt to wait till he gets to the destination airport and use an ordinary telephone there. On the other hand, in-flight business discussions are common enough and people are known to have ideas in-flight —or will simply remember things they should have done before take-off.

But the opposite view is that a business passenger looks forward to escaping from the telephone for a couple of hours for paperwork or reading. He might be annoyed by someone next to him chattering on the phone.

The U.S. system uses 36 ground stations, but the aircraft is not handed off from one area to another as in the ground mobile cellular systems now coming into service in the U.S. and UK. It is simply radio*linked to the terrestrial phone* network via the nearest ground station. Calls can only be initiated from the aircraft, not from the ground.

In Europe such a system would involve a number of international bodies. The International Air Transport Association (IATA) for example, has not yet formally considered the matter, but a spokesman said the association will monitor U.S. developments—particularly any move to extend coverage into the Atlantic or Pacific (which calls either for a satellite or station-keeping ships strung across the ocean).

INMARSAT, the international marine satellite body, has revealed that it will be changing

The U.S. system uses 36 ground stations which link into the terrestrial phone network.

its constitution in 1985 to include aeronautical communications. Although operational radio is the first priority, passenger communications is not ruled out.

INMARSAT has been talking to the airlines and is conducting, for example, a study into the equipment and aerials needed on aircraft. It also plans to put up further satellites in 1988 which will embrace aeronautical as well as marine frequencies. Contracts will be placed in the second quarter of 1985, worth "several hundred million dollars."

OFFSHORE

How dental fillings protect oil platforms

COMPANIES IN the offshore oil and gas industry could benefit from work on dental materials at a laboratory run by the Department of Trade and Industry.

The Laboratory of the Government Chemist in London has developed a coating material for offshore structures based on zinc polycarboxylate — the same substance used in many dental fillings. The laboratory has built up a reputation in the world of dentistry and some of its products in this area are sold under licence by companies around the world.

Government scientists realised that the properties of the dental substance could be attractive to engineers who want to protect from corrosion structures such as oil rigs.

The zinc polycarboxylate can be turned into a water-based coating that technical workers can spray onto the steel framework of the offshore hardware. The coating protects the structure by galvanisation.

Scientists have tested the coating, called Zincathon, on rigs owned by the Ministry of Defence in Portsmouth Harbour.

In further work, staff in the materials group of the laboratory of the Government Chemist *have produced another material*, an ionic polymer mixed with water, that could be used in the canning industry.

Canning companies require materials of this sort to act as a coating inside receptacles used for food and other perishable substances. Conventional coatings are often based on organic solvents. In applying these coatings, workers may suffer a risk from poisonous fumes.

The developments at the government laboratory come after two years of work on water-based coatings. The laboratory says it is discussing with several companies licensing deals under which private ventures could take a stake in further development of the materials.

COMPUTING

Cobol for personal micros

A FAST, inexpensive Cobol for the IBM PC is one of the first products of collaboration between Digital Research of the U.S., the company which pioneered operating systems for the first personal computers, and Microfocus, the leading UK microcomputer software house.

The product DR Level II Cobol is a compiler (a computer program which converts Cobol instructions into machine language) certified by the U.S. Federal Software Testing Centre to meet the full ANSI specifications for high level compilers.

It costs £595, but Digital Research claims that it gives the performance of compilers costing £2,000 and more.

Software developers will pay no licence fee for applications developed with the compiler, which should reduce their distribution costs.

Tested using the NCR benchmark, the new Digital Research Cobol was timed at 13.4 seconds compared with Microsoft V1.07 which took 116 seconds.

The new product is important because the vast majority of business software is still written in Cobol. More from Digital Research on 0635 35304.

Training

Pilot testing

THE Ministry of Defence is installing a computer-based system for pilot selection at its Biggin Hill pilot aptitude testing centre.

Based on 25 torch microcomputers, each potential pilot is given a floppy disk which takes the operator through the various tests. As well as communicating via the keyboard, the workstation can be controlled by a joy*stick and foot pedal*.

The Biggin Hill facility is used for screening many candidates in the armed services both at home and overseas including the Royal Navy as well as university cadetships and flying scholarships.

Report

Electronic mail

FROST AND SULLIVAN, the U.S.-based high technology market research organisation is to hold a seminar on electronic mail at the Connaught Rooms, in London on April 25 and 26.

The principal speaker will be Mr Donald Van Doren who is president of Vanguard Communications, a New Jersey company specialising in emerging communications technologies like local networking and long distance communications.

The seminar fee will be £435 and more information can be obtained from Cindy Barnes on 01-486 0334.

METALS RECOVERY

The making of plasma

BY ELAINE WILLIAMS

THIS YEAR could well be the make or break time for gas plasma technology in the metal recovery business. SKF in Sweden hopes to have its first plant in full operation in 1985 and Tetronics, a small British company hopes to see years of research finally pay off.

Plasma is a process which researchers see as applicable mainly to the metals and metals recovery business. But these industries have been suffering from stagnant or falling prices and reduced demand which has hindered the wider adoption of plasma technology.

Companies have flirted with plasma processes since the 1930s. Huls, a West German chemical company was by 1940 *producing 60,000 tonnes of* acetylene by using plasma jets.

There are three companies most actively involved with plasma technology today. These are Tetronics, a small UK project research company, Westinghouse in the U.S. and SKF, the Swedish steel and bearing maker.

SKF, as part of a consortium, last year completed the construction of a new plant at Landskrona in southern Sweden for the recovery of metals from baghouse dust produced during steel making. Though inaugurated last September, the plant, run by a new company called ScanDust, has yet to be operated on a continuous basis. ScanDust should eventually process 50,000 tonnes of waste a year.

Tetronics, by contrast, has a 10,000 tonne/year capacity plant working in the U.S. It was built for Texasgulf near Atlanta, Georgia, to recover platignum from spent car catalysts. The U.S. has a ready supply of such catalysts because of laws which control the emis*sion of toxic car exhaust gases*. This plant has been operating commercially since August 1983.

The British company has also carried out studies on the use of plasma technology for many companies in Japan and the UK with British Steel amongst its clients. It is now hoping to extend the applications of plasma technology in welding large sections of titanium, improving part of a steel making process and traditional glass making. Tetronics was supported in its early days by Foster Wheeler.

Tetronics builds smaller plants than SKF and sees applications in the 1MW to 10MW ranges. This covers for example, fine refining of metals, cutting and welding, small scale coal gasification applications, smelting and melting metal production and glass and cement production.

SKF and Westinghouse use the same techniques to produce a gas plasma because the Swedish company originally licensed its technology from Westinghouse. The U.S. company developed its process to simulate conditions that a space craft would experience on reentry into the earth's atmosphere.

In this system a gas is ionised as it passes through the space between two concentric copper electrodes. Ionisation strips the gas of electrons giving the gas an electric charge. Also most of the energy applied to the electrodes is passed to the gas stream in the form of heat.

The gas stream can reach temperatures of between 3,000 and 10,000 deg C and is powerful enough to punch a hole in mild steel within seconds. In the ScanDust plant, the gas stream acts upon the dust in the furnace to reduce it to pure metals, in this case mainly zinc. The excess heat produced by the process is to be fed into Landskrona's district heating system.

Tetronics has taken a different approach. It uses one electrode through which the gas passes while the second electrode is at the base of the furnace. This means that the gas is ionised within the reaction zone of the furnace. It uses a fraction of the gas needed in the SKF system, operates at lower temperatures and does not generate so much waste heat. Mr Roger Gurr, the company's project manager said that this allowed smaller furnaces and electrodes with greater efficiencies to be produced.

Both approaches to plasma technology lead to smaller furnaces and can recycle metals from waste untreatable by more conventional systems. The question of overall economics, however, still remains.

In Sweden, the ScanDust plant will play a social roll by providing new jobs in an area of high unemployment and supplies the district heating system but few countries are able to justify recovery plants on such grounds.

PERSONAL COMPUTING

Engineering portable

A TRANSPORTABLE computer with disk drive, printer and operating system built in was launched late last week by Hewlett Packard, the U.S.-based electronics group.

What makes the machine stand out from other "luggable" computers on the market (it weighs 25 pounds) is the fact that the operating system, embedded within the machine on a silicon chip, is Unix, trendiest of all microcomputer operating software.

The machine is aimed at scientists and engineers, among whom there is already a strong following for Unix.

Unix was written over a decade ago in Bell Laboratories as a language for minicomputers which made it simple for programmers (experienced programmers, that is, not beginners or laymen) to develop new software. It is a language rich in utilities to help the programmer in his or her work.

As such, it attained a strong cult following in the universities and colleges among advanced programmers.

But it needed powerful resources—high speed computing power and lots of memory.

With the development of 16 and 32 bit microprocessors such as the MC 68000 on which the new HP machine is based, that power and memory capacity *became available in personal* computers.

Although HP has been wooing the business world with a series of quality desk top and portable machines, its strength still lies in the scientific and engineering areas where its reputation for quality is unequalled.

The new machine uses an HP version of Unix called HP UX and it provides sophisticated facilities such as graphics and windowing—where more than one program can be seen running on the screen at once.

It features a built in "Think-jet" printer and a 3.5 inch double sided disk drive with 710 kilobytes of memory on each side. It has a nine inch electroluminescent screen and will sell in the UK at £5,450.

THE ARTS

Rigoletto/Coliseum

Max Loppert

The English National Opera's biggest hit for many seasons returned to the repertory on Friday. The performance found the company in superb form. Every corner of the stage was alive with precisely weighed, never over - enthusiastic ensemble participation; all the smaller roles were immaculately placed in the picture, and if one singles out the trio of "hood" courtiers of Terry Jenkins, Malcolm Rivers, and Mark Richardson, it is only for the sheer bravura of their impersonations.

Such a red-blooded, nervy, acutely responsive company presentation argues the strongest possible case for Jonathan Miller's updating of the work to the New York Lower East Side, time the early 1950s. One may continue to have, as I do, misgivings about it—Verdi's burning denunciation of state power licensed to easy abuse goes missing when all the characters repose on the shady side of the law, the character of the Duke becomes less, not more, credible in the translation. Yet the poetic atmosphere of the show, delivered in tones of harshly muted melancholy, overpowers cool critical observation: a *Rigoletto* as truthfully characterised and musically faithful as this, with its net of relationships drawn painfully taut, can hardly have gone badly wrong in Verdian essentials.

All the principals are experienced — John Rawnsley in the title role and Arthur Davies (Duke) are Miller's originals, while Valerie Masterson, new to this production in London, is happily recalled from the previous ENO *Rigoletto*. Baritone and tenor were both at their considerable best on Friday (Mr Davies' way with his music has, indeed, gained enormously in fluency, finesse, and appreciation of detail). Though Miss Masterson, heard here in brighter, clearer, bolder voice than for what seems like long ages, may not command the gawky youthful radiance, the doe-like innocence of Miller's other Gildas, the economical elegance of her stage presence and the pinpoint control of her singing made up the difference. Jean Rigby's lustrous, lissome Maddalena provides, in Act 4, an ideal female contrast.

John Mauceri, the young American who in the ENO's *Force of Destiny* and *Butterfly* has already given notice of outstanding abilities in Italian opera, takes over direction of the revival. In an interesting programme note the conductor elucidates his concern for exactitude in matters of Verdi tempo marking. Friday's performance bore out the point of his labours — some passages may have struck the ear as unusually moderate in pace, but the whole work had the "consecutive" quality, the unbroken vision of a natural Verdian.

Mr Mauceri is a "singing" conductor, at one with the vocal impulses, an inspirer of glowing orchestral accompaniment. Mille has allowed an incursion of the original Italian into James Fenton's translation in a way that seems entirely natural to place and situation; now, perhaps, he could set about correcting the many misaccentuations of English that remain.

Radu Lupu/Elizabeth Hall

Dominic Gill

The last time I heard Radu Lupu play, two years ago, I called him a marvellous and maddeningly uneven, unpredictable pianist. From time to time, at his best, he has given some of the finest Schubert and Brahms performances that I can remember. At other times he can play so dully — or more important, with so little sense of engagement—that one could swear another artist entirely had replaced him at the keyboard.

I found his recital of Beethoven and Schumann on Friday evening at once, on the surface, often extremely beautiful and, musically below that surface, disappointingly self-absorbed, unengaging. The tensions in the first movement of his opening work, Beethoven's sonata op.109, could have been put down to nerves: but they persisted. A tendency to clip the triplets of the prestissimo's main motif, a crucial dilution of the authentic effect, was merely an awkward mis-reading; but the whole manner of the finale was mis-tuned, dreamily withdrawn, full of coynesses, unnecessary (because irrelevant) emphases, little pedantic rushes and lingerings.

I intensely disliked the sentimental late-19th-century de-synchronisation of hands in the fourth variation. There were, inevitably, for Lupu is a serious and thinking artist, more than a few intriguing isolated insights: but they did not add up together to a view of Beethoven's most mysterious and elusive sonata that was especially original or convincing.

Lupu's account of Beethoven's op. 110 was similarly "sensitive" and "interesting"—and similarly, through lack of any real conviction and originality, emotionally lame. It was significant that he used the soft pedal liberally in the opening pages, which nullified (in the way that he used it) the vital carrying power of the cantabile melody: a veneer of prettiness to please the ear, but which contradicted the music. In sum, another performance more self-absorbed than Beethoven-absorbed.

That his reading of Schumann's C major Fantasy after the interval seemed altogether too whimsical and lightweight is a matter of personal taste: others perhaps may have found it a revelation. For my part, I missed in Lupu's opening pages any trace of the *appassionatamente* and *fantasticamente* which are the composer's own key labels for the music—in their place a kind of delicate febrile wistfulness, that had neither sinew nor abandon.

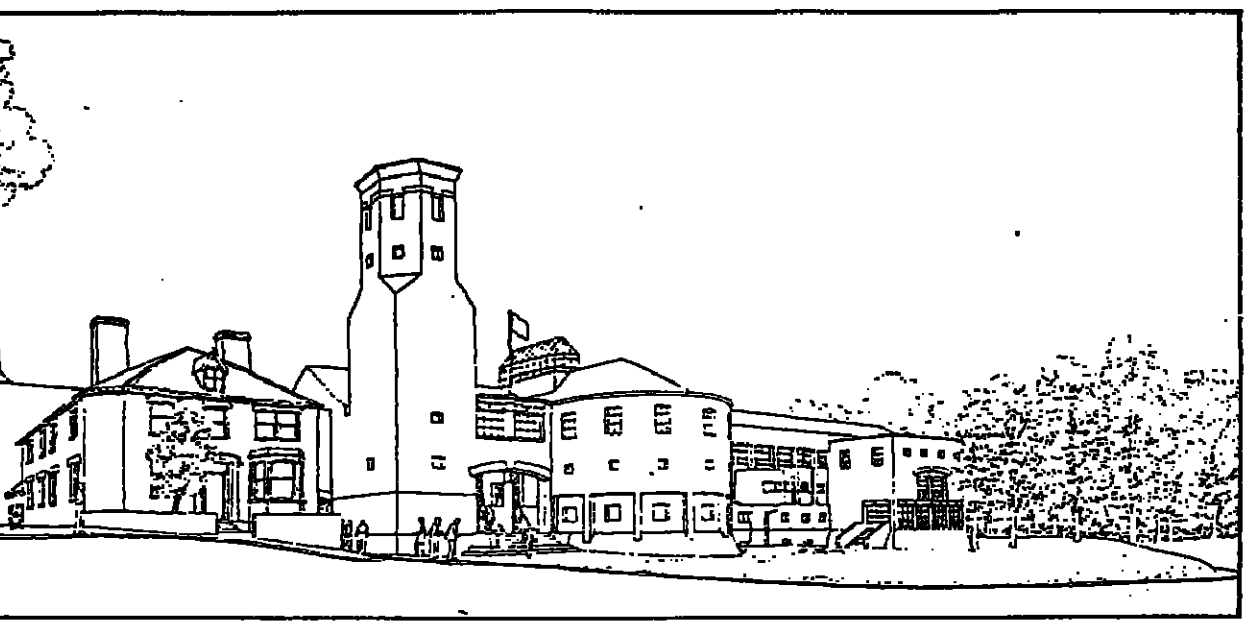
The music grew more impassioned as it progressed: but that very attempt to "develop" the drama instead of plunging into it from the start was surely a misconception. Lupu didn't cheat rhythmically, as many pianists do, in the second movement's fiendish coda: but he pulled its punches by playing it *mezzoforte* — which in a Schumannesque context is a manner of spiritual cheating. A sold out and hugely appreciative hall evidently disagreed with me heartily.

First prize for First House

First House, a quartet of young jazz musicians from England, were the winners of the third International Jazz Federation European Jazz Competition at Leverkusen, West Germany. The competition attracted 125 entries from 22 countries. An international jury listened to all the tapes and selected six bands to perform in the finalists' concerts, following which the jury awarded the title "European Young Jazz Artists 1984" to First House. The quartet also received a cash prize of DM 5,000 and a commemorative plaque. The prizes were sponsored by the Leverkusen-based firm AGFA.

Architecture

Colin Amery



Compeition winning design by Jamieson, Lerner and Reid for post-modern public offices for Epping District Council

Enriching Epping's tradition

Architectural competitions have come in for a great deal of criticism during the last year. When Mr Michael Heseltine was Secretary of State for the Environment he was determined to increase the number of architectural competitions and he even had a go at speeding up the planning processes for developers who selected the designers of their new buildings by competition. Luckily for the democratic planning process, tedious though it often is, his precipitate Special Development Orders did not flourish.

What he did achieve was an atmosphere that encourages the idea of more competitions. Today we probably would not go all the way with Ruskin who thought that anarchy and competition were the "laws of death" but it has to be admitted that the recent National Gallery competition bred only suffering and disruption. My sympathies are entirely with the brave Peter Ahrends who won the competition and was then beaten into an impossible position by the uncertainties of his clients. No architect can adapt a winning design three times without dreadful compromise—the only honourable thing for the National Gallery is to start all over again.

Some competitions are better run than others. The recent one for a new civic offices for the Epping and district council has produced a good result and seems to have been managed immaculately. The winning design by Ross Jamieson, Ralph Lerner and Richard Reid is the one that interests me most but the selected six entries for the competition's second stage are all of some merit.

Epping is a rare surivval. It still seems like a pleasant country market town—saved from from suburbanisation by the protection of Epping Forest between it and London's north eastern fringes. The district council wants some new offices on a site at the northern end of the high street adjoining the large green. It is an important site, in a conservation area—and has to be seen as the key link between the houses on the High Street and the slightly more relaxed village green feeling of the North end of the town. The green slopes away up towards the slender war memorial and some Georgian houses. The scale is domestic. Opposite the site for the projected civic offices is an estate of well-built neo-Georgian houses that have been carefully designed with steeply pitched roof and dormers.

The good thing about the winning design is that it clearly understands its context—something far too many new premises ignore. Epping is a linear townscape that has grown up on the basis of medieval plots. The ho uses, shops and inns have gradually reflected their times but there is nothing that is overscaled or too horrendously out of character. There are however two very prominent and attractive landmarks. One is the tall brick water tower and the other is the remarkable church of St. John designed by Bodley and Garner and built between 1890 and 1909.

The strongest feature of the church is a great battlemented tower, foursquare and powerfully built of stone in the best East Anglian tradition. The Jamieson, Lerner and Reid design for the new civic offices also has a tower, massive and square at the base and rising up to an octagonal top. This will be Epping's third tower and its looks as though it will strike the right note of civic pride without pomposity.

What a relief it is that it is no longer necessary to look at a tower and ask what is it *for*? British architects, especially when it comes to public buildings have always liked turrets, domes, finials, spires and encrustations of all kinds. Consider for example the greatest public view in London from St James's Park bridge. Whitehall appears as towered as the Kremlin. The winning architects for Epping have understood this enthusiasm.

The architects say "the whole ensemble is conceived as an extension and enrichment of the English vernacular tradition." I like those words "and enrichment" because that is exactly what the heart is aching for in new architecture. We have had enough functionalism and dullness. Modern architects have too often elevated monotony into a rarified art form—understood by few and liked by less.

Epping is encouraging. The main façade of the offices will be a mixture of brick and colour-washed render. Care will be needed to ensure that the roofing material is as rich as the rest of the palette. The detail of the brick tower will have to be executed with skill and perhaps a little more enrichment will be needed than is shown on the preliminary drawing.

Essex towns have a long tradition of modestly scaled and architecturally lively public buildings from the 15th century Guildhall at Thaxted to the Edwardian splendours of the town hall at Colchester by Sir John Belcher. This proposed winning design for Epping is that tradition and I hope, that unlike so many other recent competition winners, it will actually be built.

A Cry with Sewn Lips/Theatre Upstairs

Michael Coveney

This remarkable, moving and scrupulously well performed play documents the persecution and death in prison of the Iranian poet Farokhi Yazdi. Its 13 scenes cover the period from 1908 to 1939. In the second of them, Farokhi is denounced by a mullah for a poem critical of the feudal governor. Held down by palace guards, Farokhi is thrown before the offended Zeigham who, rising from an extravagant massage, stitches his lips together.

This is the first of the humiliations and atrocities suffered by the poet, whose tale is recounted by the author and director Iraj Jannatie Ataie, himself a former prisoner of the Shah. His company of Iranian exiles, the Mazdak Theatre Group, is one of the most interesting and talented to hit London in some time. They perform the play in Farsi, but an excellent synopsis is provided and the lights sensibly raised between scenes so you can read it. In addition, of course, it is pleasant to hear this beautiful language of liquid assonance and glottal stops: among the few words to be caught on the wind are "Communist" and "Hitler." The first is used to denounce Farokhi in Parliament where in the mid-1920s he sits as one of two Opposition members. The scene ends with a violent attack upon his person dispassionately observed by the Persian "Speaker"

When I visited Iran ten years ago, the native theatre seemed to consist merely of Arby, Ovanessian valiantly trying to cajole actors to do a little more than just learn their lines (I saw a messily ambitious *Caligula*) and the jolly comic pantomime of the *ru-howzi* Bongahe Theatre. These were the days of the Shiraz Festival and I was informed that jokes about the Shah were permissible, within reason, during that two-week period.

But art is often most valuable, as Sartre observed, when it is an uncompromised weapon of opposition. And in exile these Iranians have plenty to oppose. It fuels their acting and gives the central performance of Jamshid Ashkani a still and almost unbearable power. The stitches, of course, soon dissolve, and at the end of the First War, in Tehran, he explodes in a tea-house at the sight of a British soldier abusing a prostitute. He also attacks the 1919 treaty and is thrown into prison.

Moving from the dynasty of the Qajars to the modern tyranny of the Reza Shah is no doubt an historical parallel to more recent shifts of political supremacy in Iran. In either phase, what emerges is the suppression of the free critical voice. There are neatly constructed scenes of friendship and despair between Farokhi and his girlfriend and the loyal Hossein. There are comic courtroom dramas, a beautifully organised prison courtyard sequence, and a succession of knocks on the door followed by a sleek fashion parade down the years of palace guards and secret agents who come to pay their disrespects.

The quality of acting is remarkable. Ashkani shuffles through his misfortunes, ageing palpably, spouting defiantly. Behrooz Bidar is the supportive Hossein, Khosrow Mahsoori a succession of overweening authority figures, Bahram Ali Ahmadi quite exceptional as a supercilious judge with a Sicilian line in laconic viciousness. Most of the cast of 12 also declare the historical headlines as newspaper boys: the Qajar dynasty ends, newspaper editor arrested, trans-Iranian railway opened, young prince engaged to Princess Foozieh, political prisoners are pardoned, and so on.

In opposition, and in exile, the contemporary Iranian theatre has found its voice. It would be easy and wrong of us to underestimate the very real significance of what is now so bravely on show to the British public in Sloane Square.

Vardi, Bennett/Wigmore Hall

David Murray

On Friday and Saturday the Wigmore Hall was impressively crowded for virtuoso recitals on two of the less favoured solo instruments. For the veteran American violist Emanuel Vardi there was a whole pilgrimage of young violists, as the clutter of viola-cases proved; William Bennett's flute drew what seemed to be a more heterogeneous audience (though they may of course have been concealing flute-cases about their persons). Neither instrument can claim a formidable repertoire, if we agree to ignore a lot of very silly flute-music, and both these performers helped themselves gratefully to transcriptions and the like. By now they must be weary of recycling their custom-built vehicles.

Vardi, a violist of marvellous security and plain musicianship, has been celebrating his instrument for considerably more than 40 years, some of that at the first desk in Toscanini's NBC Symphony. Personality doesn't intrude—the viola is by nature a temperate middle voice, neither a brilliant showoff nor a sonorous authority. Even Vardi's concluding high-wire act, his own Paraphrase on the "Blue Danube" (a bit sub-Godowsky), displayed refined agility rather than diabolical glitter.

His own adaptation of the Kochanski version of Falla's evergreen "popular Spanish songs" showed how closely the viola can approach vocal expression, so natural that the octave-displacements sounded like extraneous titivation. His alert young accompanist Kathron Sturrock rose to the sizzling repeated-notes of "Polo" with more panache than most singers' pianists. In Seymour Barab's Duo no. 2 she was dextrous but no more convinced than I was: the piece is obviously viola-friendly, but ultra-conservative (except for the cheerful American tone it could have been written in 1890) and clumsily stop-go in effect.

Nardini's F minor Sonata, a suave period-piece, was simpler and better, and better still was the Brahms E-flat Sonata, where Vardi's unpretentious directness (with some well-placed *portamento)* was a pleasure and an illuminating lesson. Best of all was the great Bach Chaconne from the D minor Partita for violin: it takes to the viola wonderfully, and Vardi unfolded it with magisterial ease, a seasoned grasp of its proportions and a deceptive smoothness in transitions that only a ripe musician can achieve.

William Bennett's recital gave liberal scope to his accompanist Clifford Benson, who was in superlative form despite being always slightly too loud. In a Bach "Sonata in D, arr. William Bennett" he covered the flautist, which was only what an arranger who disdains to give the BMV number of his original deserves (there is no canonical Bach sonata in D for flute); but he supplied vital elegance to the dominant piano-part of a Ferdinand Ries "Introduction & Polonaise," and was everywhere else a creative partner.

Bennett gave us two other arrangements by himself. One, cheekily programmed as a Mozart "Adagio & Rondo," proved to be Fiordiligi's "Per pietà" from *Così*; on the flute the Adagio was exquisite — a match for one's favourite sopranos — but the dramatic weight that the Rondo bears in the opera (Fiordiligi, dismayed by the depth of her response to an amorous stranger, resolves to flee to her original lover) was much diminished. The other was Schubert's "Arpeggione" Sonata, which translated astonishingly well: if Bennett's cultivated timbre couldn't capture the earthy robustness of Alexander Baillie's cello last week, it gave the nattering Allegro tune a pneumatic-piston quality that was both apposite and funny.

Besides the salon Ries piece, the other authentic flute-pieces were a Taffanel Fantasy on themes from Ambroise Thomas's *Françoise de Rimini*, delivered in purring style, and the Reinecke "Undine" Sonata (after the fairytale that inspired the *Ondines* of Ravel, Debussy and Giraudoux), which has had several outings since Judith Pearce revived it a few seasons ago. It is a fluent and disarming piece despite the leisurely 20 minutes it takes, generous to flute and piano alike, and with uniformly almost-memorable tunes; lavishing affectionate subtleties upon it, Bennett and Benson made it delectable. Though Bennett is a faultless executant almost to a fault, he graced Reinecke's fey mermaid with human intimations of a most appealing kind.

Cinderella/Covent Garden

Clement Crisp

With Antoinette Sibley and Anthony Dowell leading the per formance on Thursday night at Covent Garden, there could be little wrong with *Cinderella*. In the interpretations of both artists there is so complete and so natural an understanding of Ashtonian style that the ballet comes completely into focus, no matter how imprecise or muddled certain of the surrounding roles, and there is currently such a raucous view of the Ugly Sisters on offer that much of the fun and charm of the first act is dissipated.

It is Miss Sibley who tells us of comedy as well as pathos in the kitchen scene, flirting with her broom cavalier in sweetest fashion, setting out the dances with a lightness of heart and of step that are irresistible, and then suddenly catching at our hearts in her grief and in the exquisite placing of gesture as she motions towards her mother's portrait.

At the ball, she is enchantment personified in her first entrance, and once in the princely arms of Mr Dowell the dance rings out clear, true, classically exact (faultless line; crystalline musical accents) and effortless in speaking of joy and romance. The final duet, after the bestowing of the oranges, was an object lesson in Ashtonian partnership, ever harmonious, unexaggerated, yet radiant with feeling and exultant.

From Mr Dowell, of course, nobility at every moment, danced or dramatic, and the slightest and nicest flickers of horror when faced with the Cruickshank grotesques of the sisters.

Deirdre Eyden looked very beautiful as the Fairy Godmother and displayed her variation with delightful ease; the chorus of stars moved cleanly through the ingenuities of their waltz; the score sounded well under Ashley Lawrence's baton. It is music sometimes—though not here — undervalued, for it offers felicitous solutions to the ideals of Chaikovsky's ballets in an age far removed from that of the Mariinsky spectacles which inspired it.

Berio premiere

Aldo Bennici with the BBC Philharmonic Orchestra, conducted by Luciano Berio, will give the world première of Berio's most recent composition *Voci* for viola and chamber ensemble, in the Free Trade Hall, Manchester, tomorrow evening.

Arts Guide

Music/Monday. Opera and Ballet/Tuesday. Theatre/Wednesday. Exhibitions/Thursday. A selective guide to all the Arts appears each Friday.

Jan 11–17

Music

LONDON

Queen Elizabeth Hall: Antonio Barbosa, piano. Haydn, Chopin and Villa-Lobos (Tue). (928 3191).

Purcell Room: Roth String Quartet (Wed). (928 3191).

Stockhausen's Hymnen (complete). BBC Symphony Orchestra conducted by Peter Eötvös. Barbican Hall (Wed). (638 8891).

Academy of Ancient Music directed by Christopher Hogwood with Emma Kirkby, soprano, David Thomas, bass, and Catherine Mackintosh and Christopher Hirons, violin. Bach and Handel. Queen Elizabeth Hall (Thur).

London Symphony Orchestra conducted by Yondani Butt with Maurice Murphy, trumpet. Rossini, Haydn, Tchaikovsky and Beethoven. Barbican Hall (Thur).

PARIS

Renata Scotto Recital (Mon), Théâtre de l'Athenée (742.67.27).

Daniel Barenboim piano recital: Beethoven sonatas (Tue). Salle Pleyel (563.88.73).

Ensemble Orchestral de Paris with Jean-Pierre Wallez as conductor and soloist, Huguette Dreyfus, harpsicord, Alain Marion, Flute: Bach and C.P.E. Bach (Tue). Salle Gaveau (563.20.30).

Orchestre National de France with Radio France Choir conducted by Georges Prêtre: Berlioz – Romeo and Juliette (Wed). Théâtre des Champs-Elysées (723.47.77).

Ensemble Orchestral de Paris with Jean-Pierre Wallez as conductor and soloist, Huguette Dreyfus, Harpsicord, Paul Boufil, Cello, Daniel Arrignon, Oboe: Bach family (Wed). Salle Gaveau (563.20.30)

Orchestre de Paris conducted by Riccardo Chailly, Brigitte Engerer, Piano: Stravinsky, Saint-Saens, Schumann (Wed, Thur). Salle Pleyel (563.88.73).

NETHERLANDS

Utrecht, Muziekcentrum Vredenburg. Pascal Devoyon, piano. Mozart, Franck, Brahms (Tue); The Utrecht Symphony Orchestra with Iona Brown, violin, and Nobuka Imai, viola. Bach, Mendelssohn, Mozart (Wed); in the recital hall (Wed) the Gothic Voices Ensemble conducted by Christopher Page, with works by Machaut and his contemporaries. The Amsterdam Philharmonic conducted by Thomas Sanderling, with Frans Brüggen, recorder. Mozart, Bach, Schumann. (31 45 44)

Amsterdam, Concertgebouw. Robert Holl, Baritone, with Rudolf Jansen, piano. Beethoven, Reichardt, Schubert, Schumann, Brahms, Wolf, Pfitzner (Mon); Amsterdam Philharmonic conducted by Thomas Sanderling, with Frans Brüggen, recorder. Mozart, Bach, Shostakovich (Tue); David Bradshaw and Cosmo Buono, piano. Schubert, Grieg, Ravel, Liszt (Recital Hall, Tue); Schubert Lieder from Elly Ameling, soprano, accompanied by Rudolf Jansen (Wed); in the recital hall (Wed) The Shostakovich Quartet with works by the composer. (71 83 45)

NEW YORK

New York Philharmonic (Avery Fisher): Zubin Mehta conducting, Kiri te Kanawa, soprano. Elgar, Webern, Strauss (Tue); Klaus Tennstedt conducting, Lorne Munroe, cello. Strauss, Beethoven (Thur). Lincoln Center (874 2424).

Douglas Boyd (Kaufman): oboe recital. Ian Burnside, piano. C. P. E. Bach, Poulenc, Berio, Britten, Kalliwoda (Tue). 92nd St. Y, 1395 Lexington Av (427 4410).

Carnegie Hall: New York Pops. Skitch Henderson conducting. Lerner and Loewe with John Raitt, solo. Rossini, Borodin, Loewe (Wed); Roberta Peters, soprano recital. Handel, Rossini, Schubert, Poulenc (Thur). (247 7459).

WASHINGTON

National Symphony (Concert Hall): Mstislav Rostropovich conducting. Beethoven, Albert (Thur). Kennedy Center (254 3776).

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Monday January 14 1985

Challenging Mr Scargill

IT IS now quite possible that the British coal strike will last a year, perhaps longer. The country has learned to live with it. There have been no power cuts, even during the present miserable weather, and there are none in prospect. Whatever the final outcome, it is pretty clear that Mr Arthur Scargill, the president of the National Union of Mineworkers, will not win—in the sense of forcing a humiliating climbdown by the Government and the National Coal Board. Indeed, it is conceivable that the effective end will come when sufficient miners go back to work to produce enough coal for the country's requirements. Mr Scargill and some others may still stay out, but they will have lost.

That is not the worst possible result, but neither is it entirely satisfactory. The Government and the country may have survived the strike,but they will still have to live with its consequences. In many ways these have been immensely damaging.

They have been damaging to the NUM and its members: witness the prospect that the Nottinghamshire contingent might be expelled from the national union. True, there have been precedents for that and there is something to be said for negotiations being conducted at a regional rather than national level. But it will not be a symmetrical split and, in any case, Mr Scargill is putting the national union in a position of not being able credibly to call a strike again in the foreseeable future. He is destroying rather than consolidating his power base.

TUC damaged

The strike has been damaging to the trades union movement as a whole, and particularly to the Trades Union Congress. The TUC has tried at times to support the strike, and at others to mediate It has come out looking divided and impotent. That does not inspire much confidence in its capacity for benign influence in future industrial relations.

The strike has also been damaging to the constitutional left across the board. Mr Neil Kinnock has been denied the joyride that he might have had as the new leader of the Labour Party. Quite often he has not known which way to turn, avoiding the picket lines for months, then suddenly appearing on them just after Christmas. It is still not known precisely where he stands, except in a state of considerable embarrassment. Moreover, the inquest is still to come. There will be many on the hard left who will blame the leadership of the Parliamentary Labour Party if Mr Scargill is seen to be defeated.

Not least, the strike has been damaging to the British economy. Certainly the cost has been bearable and probably it was one that had to be paid in the circumstances. Yet the year 1984 would have been calmer economically if the strike had not taken place. Residual problems will remain even when it is over: like what the policy for coal is going to be and what are to be the effects on British Rail, which may have lost some of its coal transport for good The effects of the strike must be reverberating throughout the economy in lots of ways that have yet to be reported.

From all this damage two conclusions can be drawn. The first is that there is nothing more that the Government or the coal board can offer than what is already on the table The NUM cannot be allowed the right of veto over the closure of pits which are judged to be insufficiently economic and therefore force up the average price of coal. It might help if the Government and the NCB were to explain their case yet again from the beginning, with all their offers to cushion the miners from hardship.

The second conclusion is that it is up to the left to help itself. It is the left which is being most hurt by the dispute and which is showing not the slightest sign of recovery On the contrary, it is beginning to fragment faster than ever Sometime soon the TUC, the Labour Party, the individual unions, the rest of the members of the executive committee of the NUM—preferably a mixture of the whole lot—are going to have to stand up to Mr Scargill and tell him he is wrong. For not only has he not saved a single pit or miner's job, he is destroying countless other jobs besides What began as an industrial dispute is turning into a calamity for the left. The country can survive that if it has to, but is the left really so feeble that it can allow itself to be trampled on by Mr Scargill?

The amnesty offer in Nicaragua

SR DANIEL ORTEGA has marked his inauguration as Nicaragua's new president with an amnesty offer to the regime's enemies which appears both far reaching and conciliatory On condition that the U.S backed guerrilla forces lay down their arms, anyone can benefit from the amnesty and under Red Cross auspices be reintegrated into society

The marxist-orientated Sandinista government has made amnesty offers before and some members of the rebel groups have taken advantage But until now the amnesty has excluded all the leaders and has had no impact on the level of rebel military activity or on the willingness of the main groups to talk peace.

The regime's opponents, whether in Washington or among the "contra" rebels, can easily read into this offer a sign of weakness They will argue that the escalating conflict is having a damaging effect on Sandinista morale, severely disrupting the economy and as a result making the Government more flexible.

Propaganda

The temptation therefore is to ignore the proposal, dismissing it as a propaganda ploy to undercut the Reagan Administration's fresh attempts to secure new funds from Congress to pursue what has become the CIA's most publicly known "covert" operation.

Although the Sandinistas would like to end the fighting, there are limits to the concessions they can realistically make Since the contras refused to take part in last November's elections, the amnesty offer is about as far as Sr Ortega can go under the circumstances. The offer deserves serious consideration. No Left-wing government in Latin America has offered such amnesty to its armed Right-wing opponents.

It comes at a potentially crucial juncture. Although the contras have had their formal U.S. financial aid cut, indirect assistance has still been reaching them. Nevertheless, to survive they need new congressional money. They also need the continued goodwill of Honduras where the bulk have their rear bases. Honduras has become increasingly concerned by the political and military implications of their presence and has begun to curb their activity.

The contras themselves cannot sustain the current level of casualties for much more than a year without major new recruitment. This will be difficult since the backbone remains former Somoza supporters who fled the country in 1979.

Errors

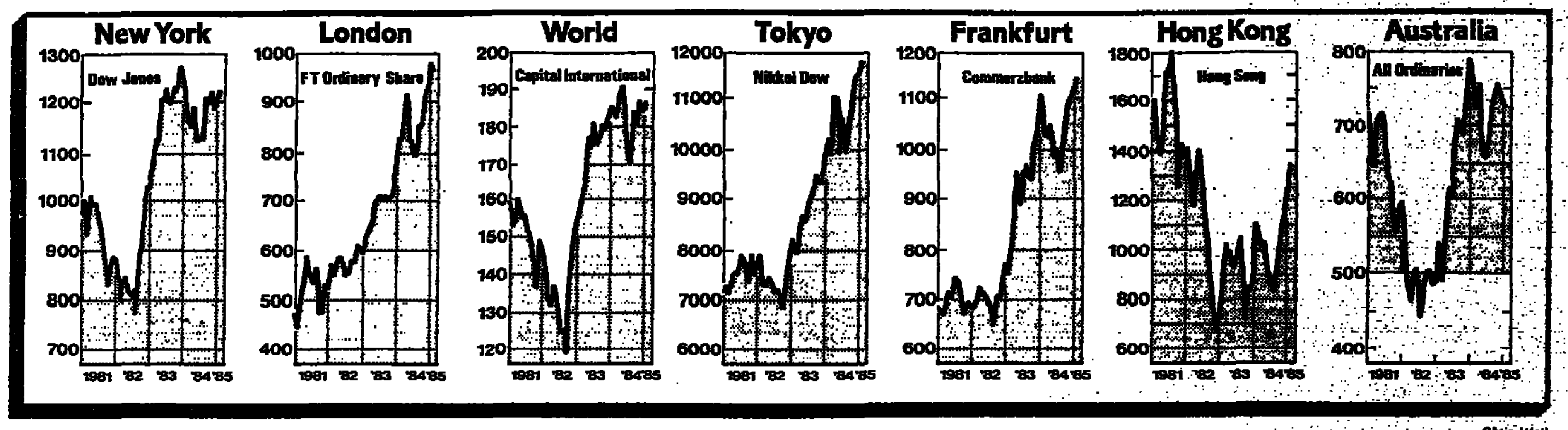
The Sandinistas have sought to divide their opponents by opening discussions with the main Miskito Indian opposition group fighting on the Caribbean coast This in itself is a significant development because, in so doing, the government has admitted early errors in trying to convert these remote largely English-speaking Caribbean communities to marxism, ignoring their individual culture.

Parallel with this the government began last year talks with opposition parties inside Nicaragua on national reconciliation.

The next step surely must be up to the incoming Reagan administration. In the previous four years, President Reagan allowed the hardliners among his entourage to dictate policy on Central America. The last flourish of this group was in November when they initiated a scare campaign over delivery of Soviet MiG aircraft to Nicaragua which turned out to be wrong Since then Mr George Shultz seems to have consolidated his hold at the State Department and there is the prospect of greater pragmatism.

The mechanisms are in place for Nicaragua and the U.S to improve their relations via the secret talks that have been held from time to time in Mexico These talks have always foundered because the U.S seems to have been unable to make up its mind whether it is prepared to live with a leftist regime in Nicaragua. This regime is now weak enough to be malleable; but not to surrender its independence. If the pragmatists in Washington are in the ascendant the amnesty "message" is not such a hard one to interpret and it would help restore stability to Central America.

WORLD STOCK MARKETS



Equities scale new peaks

By Martin Dickson and Gordon Crumb

STOCK MARKETS around the world have begun the New Year in appropriately cheerful mood, with indices reaching record peaks in London, across Continental Europe and in Tokyo.

In London, it looked at one time last week as if the FT Ordinary index was in a race with sterling to the record books: it was heading as fast towards 1,000 as the pound was dropping towards parity with the dollar.

Tokyo managed to push its record-breaking December run even higher, while across Europe new peaks were reached in Frankfurt, Paris, Amsterdam, Zurich, Milan, Oslo and Madrid.

New York, although some 60 points short of the peak in the Dow Jones Industrial average, reached in November 1983, was also on an upward trend through much of last week. By Friday a duller tone did settle over most markets—but the mood generally remains buoyant.

So what lies behind this optimism and how strongly based is it?

To some extent, the upturn may be seasonal. The turn of the year has traditionally been accompanied by strong buying in most world markets as institutions receive their annual coupon payments on government bonds and other investments.

In Japan, an additional factor is the injection into the equity market, via investment trusts, of workers' sizeable end-of-year bonuses.

However, more fundamental forces than this are at work: the outlook for the world economy and interest rates, the strength of the dollar, corporate profitability, depressed commodity prices and that indefinable factor, investor sentiment.

Perhaps above all, eyes remain firmly focussed on an uncertain immediate future for the U.S. economy, given that either recession or steady growth in America has major repercussions on the rest of the world.

Sentiment on Wall Street is particularly mixed, with analysts split between those who foresee a sluggish market in 1985 and those who believe it is on the point of a strong bull rally. "The mood of the professionals is one of confusion," said Mr Robert Stovall, a vice-president at broking house Dean Witter Reynolds.

Uncertainty about the future direction of the U.S. economy contrasts sharply with the relatively buoyant economic picture in Europe and Japan, which has helped underpin the rall ies in these centres.

Good prospects for profits growth in Europe and Japan

In the UK, for example, real economic growth is expected to be in the order of 2½ to 3 per cent this year—all but unassailed by the miners' strike. West Germany, which has bounced back from last year's metalworkers' stoppage, could experience a 3 per cent increase.

Higher growth coupled with lower rates of inflation should in turn feed through to the profits of companies where productivity has already been boosted by recession-induced slimming programmes.

Many European and Japanese companies are also benefiting greatly from the relative strength of the dollar against their national currencies, which is boosting export receipts and the repatriated profits of businesses with U.S. subsidiaries.

Across Europe, investor interest has turned to companies with good U.S. export prospects: for example, shares in Porsche, the West German luxury car manufacturer, although now past their best. have drawn vigorous demand.

The corollary of a strong dollar has been high interest rates, which have hit European corporate profitability. However, nudged by the U.S. Federal Reserve's pre-Christmas cut in the discount rate, interest rates in a number of centres now seem on a downward trend — despite the UK's one point rise in base rate on Friday.

In the markets' view however, all these factors should add up to a healthy rise in European and Japanese corporate profitability in 1985, on top of an excellent result in 1984.

For example, in Britain, where Government tax cuts worth £3bn could be in prospect, brokers are forecasting pre-tax profit increases of around 15 per cent this year, on top of the 18 to 20 per cent in rises estimated for 1984. Dividend growth is likely to be more modest—possibly around 10 per cent — but still a good five percentage points above the rate of inflation.

Overshadowing all forecasts, the U.S. economy is moving in a very different cyclical pattern to Europe and the Far East

Institutional investors in Europe and Japan are already flush with cash, thanks to good 1984 dividend payments (and a record wave of highly profitable takeover bids in the case of Britain, where institutions are currently estimated to hold some £9bn of cash and liquid assets). All this money is seeking a home, and much of it is going into equities—as appear to be substantial flows of U.S. institutional money, attracted by the relative cheapness of many European markets.

Also buoying the Japanese and most European markets is the depressed level of world commodity values; a persistent downward pressure on oil prices is helping to keep down the cost of manufacturing and shipping goods, while a generally pessimistic outlook for gold helps to deflect investment demand into equities.

Where there are beneficiaries from low commodity prices there are also losers though, notably the resource-based markets of Australia, Canada and South Africa, where indices overall stand well below their 1984 high points.

Again, the effects work in differing ways for each market. Johannesburg gold shares are at historic highs in rand terms because the local currency's precipitate fall against the dollar—it has halved in value since early 1982.

Gold accounts for almost half South Africa's total exports by value. While the other two producing countries are far less dependent on the metal, distress has nevertheless been felt on the Australian gold boards. One broker puts the break-even point for even the most efficient of quoted gold producers there as not much below $230 an ounce. With bullion hovering either side of $300, the slide in the metal has already rendered the majority on the list marginal.

Many Canadian and Australian stocks are near 12-month lows and there are few other areas of cheer in the markets. Canada labours under a budget deficit slightly larger even than that of the U.S. in proportion to gross national product. Australian corporate earnings growth may already have peaked, and an overhaul of the tax structure due in mid-year is making for uncertainty. As for South Africa, companies face daunting provisions to finance dollar borrowings made in past years.

Britain, although now one of the world's leading oil producers, finds itself in a more comfortable position against a background of lower energy prices: for falls in its dollar denominated earnings from the North Sea have been offset by the sinking sterling-dollar exchange rate — boosting the Government's sterling income and aiding exporters.

The general bouyancy of world stock markets helped Hong Kong rise by the end of last week to its highest level since June 1982. But the main reason for the bull run of the past two weeks is the re-emergence of confidence following the agreement between Britain and China on the colony's future. Political uncertainty. in a market dominated by volatile property stocks, had kept local share prices depressed—despite the strong performance of the economy.

Confidence in Hong Kong's future reflected in bull run

Hong Kong, however, is very much a case on its own. The question facing most European markets and Japan is how much further bourses can rise.

Analysts in London and Frankfurt point out that 1985's profits and dividends picture is already fully written in to current share prices.

"I don't think the London market is expensive," says Mr Michael Prag, senior partner of Simon and Coates, "but I think it is hard to justify any significant rise this year."

In Japan, some brokers consider that the current rally is likely to run out of steam soon —but the outlook thereafter is uncertain. Beyond April predictions vary, with most brokers expecting a rising pattern similar to last year.

However, overshadowing all such forecasts is the U.S. economy, which is moving in a very different cyclical pattern to Europe and the Far East.

Concern in the first half of last year that the economy was overheating has given way to fears of a marked slowdown and doubts whether the Fed's move to ease credit before Christmas can revive the growth rate without spurring inflation. Last week's rally was due in no small part to a statement by Mr Paul Volcker, the Fed chairman, that the economy might be building a trend towards more stability of prices.

Nevertheless, there remains considerable nervousness about the budget deficit, the tax reforms being considered by President Reagan and the threat the strong dollar poses to the earnings of companies manufacturing internationally traded goods.

The immediate tone of the market is likely to be set by fourth-quarter 1984 results, which will be unveiled over the next month. Last week's initial results—from Chemical Bank and Bank of New York—helped spur the Dow, while the confident mood of Detroit was reflected in motor shares.

While some nasty shocks could still be to come, the preponderant tone on Wall Street seems bullish, with analysts expecting a healthy growth in corporate profits over the year —albeit lower than last year's 20 per cent.

Says one leading New York analyst: "With interest rates declining, a continued stimulative fiscal policy and no real speculative excesses in the system, this looks in many ways like the beginning of a recovery rather than the late stages of one."

Bankers agree to keep secrets

London bankers involved in raising loans for a nuclear power station project in China have been required to sign the Official Secrets Act. According to one—who, forgiveably asks to remain anonymous — the order has been made "at the highest level of the Cabinet."

Some of the City gents are a mite offended by the implied slur on their discretion. But they have not had any choice in the matter. One of them calls the whole proceeding "ludicrous."

At least half a dozen bankers have signed the pledge so far. Others have had to give undertakings that they will not blab about the now-imminent contract with the Chinese.

The British Government has felt it necessary to impose its own Great Wall of Silence because it is, in effect, leading the financing syndicate and is acutely aware that the Chinese are sensitive about prepublicity.

Premature disclosures about the negotiations for the £3.5bn project at Daya Bay opposite Hong Kong might, it is argued, prejudice the outcome for GEC. the British contractor chosen to supply two 900 megawatt turbine generators. It is not unknown for bankers involved in defence sales to be asked to sign the Official Secrets Act But a Bank of England man tells me he cannot recall previous cases for commercial transactions.

Staff of the Export Credits Guarantee Department, the agency that will be guaranteeing the power project, are expected to sign the act because they are within the civil service.

Asked to explain why the act has been trundled out in this case a Department of Trade man took refuge in the need for secrecy. "I can't discuss it. Our relationship with the banks is a confidential one. I can't confirm or deny that people have been asked to sign."

They have. But it is probably a breach of the Official Secrets Act to say so.

Men and Matters

Diverging trends

It is sometimes hazardous to use extracts from newspaper articles in advertisements but the Confederation of British Industry hardly expected to be stirring up trouble when it used a quotation from the FT to promote its staidly respectable Industrial Trends Survey

The advertisement, intended for display in the Department of Trade and Industry's magazine British Business, quoted from a recent FT story which drew attention to discrepancies between official statistics for industrial production and the CBI survey results.

Our story had commented that Treasury economists "were inclined to give more weight" to the CBI results than to more pessimistic figures from the Central Statistical Office.

Perhaps the FT had touched a raw nerve. Sensitive DTI officials vetoed that part of the advertisement and it was replaced by a more anodyne phrase.

Now I see what they mean by "No FT—no comment."

High marks

The whiff of a generous cash handout from the Treasury's coffers to build the European Community Trade Mark Office in London is having an enlivening effect upon all the interested parties.

Among London's trade mark agents and associated legal eagles the idea of a prestige building on the St George's Hospital site at Hyde Park Corner, which I mentioned recently, is proving very attractive.

But the City of London is fighting back. One Guildhall worthy says: "Once or twice in a century something comes along which would have a major impact upon the City. The trade mark office is just such a prize — we are going to get it."

"He's desperate to get a headmastership before the weeding out starts"

The City of London is offering an impressive site — the Whitefriars area between the Thames and Fleet Street, some 112,000 sq ft of prime office space. It would be hard-by the law courts, the barristers' inns, and Chancery Lane where the British trade mark agencies cluster.

Planning permission already exists for a suitable new building on the site which until recently has been the home of the Guildhall School of Music and Drama.

If Britain is to stay in the race for the Euro office with West Germany, France, and Holland, a firm proposal must be lodged with Brussels within the next two months.

Iain Mills, the Conservative MP who is co-ordinating the British drive to secure the office, is off to London's East End docklands this week to examine yet another proposed site. And Croydon has put forward an attractive proposal in one of the best office development areas in the land.

As ever money will talk. The Duke of Westminster, owner of the St George's site through his Grosvenor Estate, is in a position to make his offering financially attractive. And the City of London believes it is rich enough to avoid the ignominy of being outbid.

Watts steps out

Reggie Watts has surprised the public relations business by his decisions to quit the London chairmanship of Burson-Marsteller, which claims it is the world's largest PR firm.

Watts, who is a former chairman of the Public Relations Consultants' Association, intends to go-it-alone from next month. He also assures me that he will not be poaching any staff or clients from his late employers as so often happens in the PR and advertising trades.

But the real surprise surrounding Watt's move is that his new business is to bepartly financed by Peter Gummer, chairman of the rival PR consultancy Shandwick — and equally famous for being brother of the Conservative Party chairman John Selwyn Gummer.

"This is a purely personal investment" insists Peter Gummer, "and nothing at all to do with Shandwick I have known Reggie for 20 years and I have great faith in him to build a successful company in a relatively short time."

Meanwhile, the reshuffle back at Burson sees William Noonan, ormer president of the U.S. operation, coming to London as chief executive. That could prove to be a holding operation with Frank Barnard and Josephine Lundberg, the presnt joint MDs, being among the long-term favourites to succeed Watts.

Observer

BASE LENDING RATES

A.B.N. Bank	9½%	C. Hoare & Co. †	9½%
Allied Irish Bank	9½%	Hong Kong & Shanghai	10½%
Amro Bank	9½%	Johnson Matthey Bkrs.	10½%
Henry Ansbacher	10½%	Knowsley & Co. Ltd.	10½%
Armco Trust Ltd.	10½%	Lloyds Bank	10½%
Associates Cap. Corp.	9½%	Mallinhall Limited	10 %
Banco de Bilbao	9½%	Edward Manson & Co.	10½%
Bank Hapoalim	9½%	Meghraj and Sons Ltd.	10½%
BCCI	10½%	Midland Bank	10½%
Bank of Ireland	9½%	■ Morgan Grenfell	9½%
Bank of Cyprus	9½%	Mount Credit Corp. Ltd.	10½%
Bank of India	9½%	National Bk. of Kuwait	10½%
Bank of Scotland	10½%	National Girobank	9½%
Banque Belge Ltd.	9½%	National Westminster	10½%
Barclays Bank	10½%	Norwich Gen. Tst.	10½%
Beneficial Trust Ltd.	10½%	People's Tst. & Sv. Ltd.	10½%
Brit. Bank of Mid. East	10½%	Provincial Trust Ltd.	11½%
■ Brown Shipley	10½%	R. Raphael & Sons	10½%
CL Bank Nederland	10½%	P. S. Refson	10½%
Canada Perm'nt Trust	10½%	Roxburghe Guarantee	11 %
Cayzer Ltd.	10½%	Royal Bk. of Scotland	10½%
Cedar Holdings	11 %	Royal Trust Co. Canada	9½%
■ Charterhouse Japhet.	10½%	■ J Henry Schroder Wagg	10½%
Choulartons**		Standard Chartered ‖	10½%
Citibank NA	10½%	Trade Dev. Bank	9½%
Citibank Savings ¶	10½%	TCB	9½%
Clydesdale Bank	10½%	Trustee Savings Bank	10½%
C. E. Coates & Co. Ltd.	10½%	United Bank of Kuwait	10½%
Comm. Bk. N. East	9½%	United Mizrahi Bank	10½%
Consolidated Credits	9½%	Westpac Banking Corp.	9½%
Co-operative Bank *	9½%	Whiteaway Laidlaw	11 %
The Cyprus Popular Bk	9½%	Williams & Glyn's	10½%
Dunbar & Co. Ltd.	10½%	Wintrust Secs. Ltd.	10½%
Duncan Lawrie	9½%	Yorkshire Bank	10½%
E. T Trust	11 %		
Exeter Trust Ltd.	11 %		
First Nat. Fin. Corp.	11 %		
First Nat. Secs. Ltd.	11 %		
■ Robert Fleming & Co.	10½%		
Robert Fraser & Ptns.	10 %		
Grindlays Bank ‡	10½%		
■ Guinness Mahon	10½%		
■ Hambros Bank	10½%		
Heritable & Gen. Trust	10½%		
■ Hill Samuel §	10½%		

■ Members of the Accepting Houses Committee.
* 7-day deposits 8.25%. 1 month 7.00%. Fixed rate 12 months £2,500 8.75% £10,000, 12 months 9.00%.
† 7-day deposits on sums of under £10,000 6¾%, £10,000 up to £50,000 7¼%, £50,000 and over 8%.
‡ Call deposits £1,000 and over 7¼%.
‖ 21-day deposits over £1,000 8¼%.
¶ Mortgage base rate.
§ Demand deposits 7%.
** See Provincial Trust Ltd.

FOREIGN AFFAIRS: ARMS CONTROL TALKS

Why the medium *is* the message

By Ian Davidson

THE U.S.-SOVIET agreement to reopen arms control talks raises two general questions. First, is this an indication of a political thaw, a symptom of a new readiness on both sides to reduce tensions and work for a better general relationship? Second, will the vastness of the agenda adopted for the new talks prove an obstacle to progress, or will the very process of debating the essential ingredients of arms control induce a more durable confidence in the stability of the nuclear balance than has been achieved by previous agreements? Neither question can be answered yet, but they will be the litmus test by which the negotiations will be judged as they grind on in the months and years ahead.

Mr Gromyko (right) and Mr Shultz in Geneva

President Reagan's political objectives are almost as difficult to fathom as those of the Kremlin. A year ago he said he wanted to establish a better working relationship with the Soviet Union, one marked by greater co-operation and understanding, and he repeated the wish in his September speech to the United Nations. No doubt he had in part been persuaded that pacific mood music of this kind would be helpful for his re-election, and perhaps, for all we know, he really wants to crown his second term and his *political career with a major* foreign policy achievement. Yet it is hard to suppose that he has abandoned his visceral hostility towards the Soviet Union as an evil empire, or expects any radical modification of Soviet policies.

No such radical modification has taken place as a result either of President Reagan's blood-and-thunder rhetoric early in his first term or of the American arms build-up, nor is it likely as a result of softer rhetoric and more regular dialogue between Moscow and Washington. The high point of detente coincided with Soviet moves to extend its footholds abroad, in Angola and Ethiopia, and it would be prudent to assume that the Soviet Union will continue to be a cautiously expansionist power, anxious to avoid unnecessary risks, but always on the look out to strengthen its empire.

Some degree of confrontation between the superpowers is, therefore, almost inevitable because the Russians are expansionists, and the more inevitable so long as Ronald Reagan is in the White House because they are Communists to boot. Yet in practice, the past four years have been marked on the ground much more by stalemate than by any significant advance by either side. The angry rhetoric of the superpowers has alarmed ordinary people everywhere, but it has not been matched by *especially dangerous action.*

The essential requirement for both of the superpowers is that they should guard against any avoidable risk of direct military conflict with each other, for that would immediately raise the spectre of nuclear escalation.

It is tempting to speculate on the delightful consequences that might accrue if, for example, Moscow and Washington were jointly to agree to seek a Middle East settlement by convoking some kind of big-power conference. There are just two problems. Neither Israel nor Syria shows any sign of seeking a negotiable settlement; and the Americans have bent their best efforts for the past 15 years at keeping the Russians out of any significant role in Middle East diplomacy.

It is hard to imagine that the dialogue now being resumed between Washington and Moscow can lead to any operational understanding over their competing claims and ambitions in the Third World. It may be that the best that can be hoped for is a tacit watchfulness not to tread too closely on each other's vital interests; and that will require much clearer distinctions to be made in Washington between interests which are vital from those which are peripheral, than was customary *in the early Reagan years.*

Since the most vital interest of both superpowers is that they should not get involved in a nuclear war, it may also be that the most important, and perhaps the only, function of the new dialogue is a reduction of the danger, and the fear, of nuclear war. Distinguished commentators are already advancing the judgment that the Shultz-Gromyko agreement was as much a foreign policy signal as a starting point for arms control negotiations. But perhaps in this case the medium is the message, and it means what it says: the significance of the resumption of arms control negotiations is that arms control negotiations will be resumed, because the nuclear *shadow dominates all other* questions of international and East-West relations.

A U.S. delegation has just held what are claimed to be successful trade talks in Moscow, but perhaps the success was more symbolic than real. Even if the Commerce Department genuinely wants to improve the trading relationship, the political restraints are bound to remain severe.

Since there is little chance of bringing about modifications in the Kremlin's general policy objectives directly, and none of changing the Reagan administration's perceptions of these objectives, it may be that the only way to reduce fear and hostility is through the arms control process.

But these new arms talks are going to have to be very different from those that have gone before. The first Strategic Arms Limitation Treaty (Salt I) of 1972 did not do a whole lot to limit strategic arms, but it seemed worth having because of the halo effect of the atmospherics of detente. Those atmospherics proved largely illusory, so this time round the results of arms talks will have to be justified purely on their contribution to military stability and predictability.

Dispassionate analysts may argue that the disparities in force structure between the superpowers, or *the proliferation* in warhead numbers since 1972, are insignificant in terms of nuclear stability, because of the vast redundancy of retaliatory capacity on both sides.

The fact remains that the deals of the 1970s left loopholes for unanticipated developments (the multiplication of warheads on increasingly accurate Soviet missiles), or failed to legislate adequately for modernisation and new weapons systems (sea-launched cruise missiles). Even if the dispassionate analysts are essentially right, psychological fears of Russian intentions and suspicions of their future plans in weaponry, have driven the alarms and excursions which have caused such traumas in East-West relations and inside the Atlantic Alliance in the past four years. If arms control is to be useful, it must do better.

Hawks in the Reagan administration, who are instinctively opposed to arms control on the historical record, respond to political pressure for negotiations by insisting on impossible conditions: since they believe the Russians are bound to cheat if they can get away with it, their recipe for doing better is to demand quite unrealistic reliability in verification, as for example in the U.S. proposals for a treaty banning chemical weapons.

Yet it is arguable that absolute accuracy in verification, besides being unattainable vis-à-vis a country as secretive as *the Soviet Union,* may in some contexts be less important than the ability to detect non-compliance when it starts to reach military significant levels; and it is probable that water tight verification would become a less contentious issue, if there were more openness about future modernisation and deployment plans. The fears of American opponents of arms control are based less on what the Russians can do today, than on what they might seek and be able to do tomorrow.

It will therefore be very interesting to see whether the U.S. negotiators put forward an idea sketched out by President Reagan at the UN last September: that the two sides should consider the exchange of outlines of five-year military plans for weapons development and their schedules of intended procurement. Apart from the intrinsic merit of the idea as a contribution to confidence and as an essential component of any arms control framework which is intended to be permanent, there are at least two reasons why the new negotiation will have to grapple much more comprehensively with the problem of the future than its predecessors did: the U.S. Start proposal for reducing nuclear weapons, and its Star Wars research programme.

Ostensibly, both sides are committed to radical reductions in nuclear weapons; the U.S. Start plan called for a one-third cut in missile warheads, and would require significant *restructuring* of forces, especially in the Soviet Union. Even if the Russians accepted the rationale for the American plan—the achievement of greater nuclear stability—the cuts and the restructuring would have to be spread over many years, at least a decade and probably more. Therefore any agreement on these lines would have to be valid for at least 15 and probably 20 years, so it would also have to legislate for adaptations in the light of new technological developments. There would be little point in negotiating away all ballistic missiles if their place were more than compensated by cruise missiles.

Star Wars is even more obviously about the future than the present. As a research pro*gramme it is not* banned by existing arms control agreements, nor could its banning be verified. The American offer is to negotiate on what the superpowers should do *if* new technology should make possible an effective defence against nuclear missiles, ten or more years from now. Many experts believe that a leak-proof space-based defence is merely science fiction, and that the most probable outcome will be an improved land-based defence of localised military targets, such as missile silos. Even that would require a renegotiation of the Anti-Ballistic Missile (ABM) treaty and its extension many years ahead—or else its abrogation and an unlimited new arms race.

The Russians have said that there can be no agreement on offensive weapons unless there is also a deal on defensive systems. It also seems clear that the negotiations will fail, or at least be permanently deadlocked, unless they grapple effectively with the problems of the future.

Lombard

The UK attitude to oil prices

By Samuel Brittan

THE BRITISH Chancellor, Mr Nigel Lawson, is not in the habit of answering the people whom one of his predecessors, Mr Denis Healey, described as "the young men who write brokers' circulars." This stand-off has its merits as well as its drawbacks. But it has allowed a wrong impression to gain ground on one particular issue. This is that the Chancellor is interested in keeping the price of oil as high as possible to maximise government revenue and thus his scope for tax cuts.

Such an attitude may describe the approach of the Department of Energy, which has done everything possible to put off price cuts by BNOC. But despite the short-term public relations skills of Mr Peter Walker, the Energy Secretary, this is an issue on which the Chancellor is likely to win in the long run, both because he is in charge of the Budget and because the Treasury has to finance the losses incurred by BNOC in supporting the oil price.

There is no reason to go to the other extreme and suppose that anyone in the Government wants to try to bust the Opec cartel—for instance, by asking BNOC to sell its oil at $23 per barrel. *In fact one young man* who writes brokers' circulars, Mr Gavyn Davies of Simon and Coates, has come quite close to the Treasury's attitude.

"It is surely now time," he writes, "for the authorities to stop acting as if they were paid-up members of Opec in all but name, and for them to realise that they have little to fear, and possibly much to gain, from a gradual reduction in world oil prices. Whether they have any safe means of starting a decline in prices seems very questionable, but the British Government certainly has the power to lessen its policy of active support for high oil prices, and to move towards a more neutral position." Mr Davies suggests that BNOC should change to a formula linked to market prices, which is one of the possibilities now under study.

The main part of the Simon and Coates paper is concerned, however, to analyse rather than predict. Just as the world stagflation was triggered off by the two massive oil price increases of 1973 and 1979, a major reduction in oil prices now could boost world recovery. It should not be forgotten that because of the rise in the dollar, oil prices in most national currencies have risen.

According to Mr Davies, a further 20 per cent fall in the dollar price of oil would raise OECD GNP by 1 per cent in 1985 and a further 1½ per cent in 1986, while inflation would be reduced by an average of 1 per cent in both these years. The impact on inflation from lower oil prices is obvious. But in addition the terms of trade of the industrial countries and their consumers' real income would improve. This would be the Opec explosion in reverse.

Most other forecasters would agree with the broad conclusion, if not the exact numbers. The controversial question is whether Britain's position as *an oil producer changes the* balance of the argument. Mr Davies points out that 94 per cent of the UK's GNP is derived from the non-oil sector, which would share the benefits of an oil price fall. Even the Public Sector Borrowing requirement could gain. The increase in economic activity would boost non-oil revenues and the fall in sterling against the dollar *would at least cushion the effect* on oil revenues.

More important, in the more likely of Mr Davies's simulations, there is a gain in real UK GNP averaging 1½ per cent and a reduction in unemployment of over 300,000. Both the rise in world activity and the likely depreciation in sterling stimulate exports and economic activity. But the lower oil price lessens the normal impact of devaluation on UK domestic prices. That impact might even be eliminated altogether by using the improved PSBR to reduce VAT rates slightly. Some of the likely sterling depreciation has in any case occurred in anticipation.

Obviously the exact UK arithmetic is highly conjectural. But the benefits to world trade and activity are pretty firm; and some of the gains at least will be shared by the UK. The gradualist move from an oil sheikh mentality to neutrality is the minimum UK policy change required. Committed cartel busters would go much further.

Letters to the Editor

The U.S. dollar mountain

From Mr W. Hawkins

Sir,—In view of the continuing rise in the international value of the U.S. dollar, it seems pertinent to draw attention to *the mountain of foreign owned* dollar assets held with U.S. banks, details of which are published in the U.S. Treasury Bulletin. Over the past three years these foreign holdings, many of which are potentially volatile, have increased considerably, and may now be standing at $450bn (end 1981, $244bn; July 1984, $394bn).

This increase mirrors a con*siderable deterioration in the* U.S. balance of payments, coupled with the attraction of U.S. interest rates compared with those ruling abroad. Put another way, it could be said to reflect the extent to which foreigners have acquiesced in the financing of cheap U.S. imports, foreign travel, investment abroad, etc., as well as the U.S. Budget Deficit. Other par*tial explanations are, of course,* foreign confidence in the U.S. economy, the dominance of the U.S. dollar as a reserve, trading and investment currency and the continued growth in the Euro-currency market.

The potential volatility of this U.S. dollar mountain will be determined not only by comparative investment considerations but also by the degree of *confidence in other major inter*national currencies ruling at any time. It will also depend on the maturity structure of the mountain itself. Information of the varying degrees of liquidity of foreign holdings of U.S. dollars with U.S. banks is sadly lacking; but it is perhaps not unreasonable to assume that foreigners spread their holdings with U.S. banks as they do with *U.K. banks. From this it may* be deduced that 22 per cent of the dollar mountain is payable at call or falls to be renegotiated within seven days. In other words, up to $100bn from this source alone could become highly liquid should a decline in overseas confidence in the U.S. dollar develop.

The disposal of only a small part of these more liquid holdings, combined with a growing reluctance to hold further current accruals from the U.S. balance of payments deficit, would cause an upheaval in foreign exchange markets and would necessitate heavy intervention by the Federal Reserve Board and European central banks if any semblance of stability were to be restored and maintained.

Such intervention, however, would not by itself bring about a reduction in the U.S. dollar mountain; it would only result in a switch from private holdings to official reserves. A reduction can only stem from a movement of the U.S. balance of payments from a deficit, currently running at about $100bn per annum, to a surplus, ignoring, of course, any special financial institutional arrangements with the IMF or U.S. sales of gold. With no early prospect of a U.S. surplus developing, one must begin to wonder how much longer foreigners will be prepared to increase their dollar holdings still further.

Indeed Mr Paul Volcker, chairman of the Federal Reserve Board is now giving warnings (January 11) of the dangers of the U.S. continuing to rely on foreign funds to finance its budget and current account deficits.

W. J. Hawkins.
13, Risebridge Road,
Gidea Park, Romford, Essex.

Turning the tide

From Mr S. Shenton

Sir, — Your comparison (Leader, January 5) of European performance in general and our own in particular with the U.S. is factual and timely.

Improvement *is hardly* perceptible from our EEC partners and hardly at all in the rest of Europe, but all the important factors here such as investment, employment, research, and the general state of the country continue to deteriorate.

It is hardly coincidental that as we move firmly down the European league our fiscal policies remain the tightest. I suggested in these *columns in* September that it was about time, in the absence of an effective Opposition, the Government back benches pressed consideration of alternatives and they have responded well, unfortunately with little success. It is difficult to understand under the impact of events how the medicine can continue to be prescribed without alteration.

The decline in sterling is more indicative of general economic failure than any dollar strength or oil worries. Some assistance would have been found within the European monetary system and one wonders what will be the next feeble pretext trotted out for staying out. The miners strike continues to divert attention and distract pressure on the Prime Minister but constructive action would assist the drift back to work.

A significant test will be the decision on capital expenditure. Treatment in the national accounting system of capital and revenue alike is harmful and misleading. Capital renewal and replacement, adequate and timely is essential for the survival of both public and private enterprise. Such schemes properly evaluated will show an immediate return in moving people and goods more cost effectively, as well as creating desperately needed long term employment. It is this failure of the Government to recognise that well chosen projects will mean spending utterly wasted unemployment monies on reconstruction that the Organisation for Economic Co-operation and Development is referring to when it says our fiscal policies are abnormally tight and restrictive. Every published in depth study shows capital investment of the right kind offers far greater employment prospects than taxation reduction. Direction of such surplus as can possibly be anticipated in the next financial year into capital schemes involves no policy turn and no risk to inflationary strategy merely good housekeeping and stewardship.

Is it too much to hope that the Prime Minister will show her characteristic courage by thinking again and supporting investment decisions which could so easily herald the turn of the tide?

Sydney Shenton.
95, The Crescent,
Stockport, Cheshire.

Bearings for Giotto

From the Manager,
National Centre of Tribology

Sir,—We read with interest the article by Lynton McLain (December 20) reviewing the multi-national Giotto spacecraft since we are involved in the project ourselves. It may be of interest to hear of this work.

Giotto will take about 1½ hours to fly through the coma of Halley's comet. In that time, it may answer many questions about the origins of the solar system and life on earth. During its flight the spacecraft will maintain its stability by spinning at 15 revolutions per minute (rpm). The satellite will communicate with earth and receive commands to keep it on course via an on-board antenna which has to be "de-spun" (at 15 rpm) to keep it aimed at the same spot on earth continuously. The antenna's support bearings have to perform very reliably and accurately over a wide temperature range (−55° C to +80° C) in the high vacuum of space. These temperatures effectively precluded the use of oils or greases, not only because of their steep changes in viscosity but also because of their possible interference with the detection of organic materials from the comet.

The process of ion-plating *sub-micron films of lead as a* lubricant in ball bearings has been well developed in the European space tribology laboratory (ESTL) and has found application in a large number of communications satellites. The bearing life, however, required for Giotto (some 10^7 revolutions) was some 10,000 times greater than the typical life of bearings in *a solar array drive. Thus ESTL* ran a special test designed both to find endurance of the lead lubricant and also to measure the torque spectrum, the latter being vital to the stability of the control system for the de-spin drive. In the torque tests, the bearings were actually run for 10^8 revolutions (10 times the anticipated life) in order to give a healthy over-test. The results clearly confirm that this method of solid lubrication is well able to satisfy the requirements and that the antenna mechanism bearings will perform to the stringent requirements with critical accuracy.

W. H. Roberts.
Risley Nuclear Laboratories,
UKAEA,
Risley, Warrington.

Reducing overtime

From Mr J. Allen

Sir,—Mr Whiting (January 8) suggests that unemployment can be substantially relieved by reducing overtime.

If I may say so this is typical of the sort of academic generalisation we have come to expect (with monotonous regularity) from those not exposed to the real world of industrial life.

Included in Mr Whiting's statistics one would find many cases where overtime is introduced on a relatively short-term basis in reaction to a peak-order situation. The costs of engaging and employing extra staff (and of subsequently disposing of their services when orders are scarce) would be both financially imprudent and socially cruel.

His recommendation to applaud public sector departments who work no overtime produced a hollow laugh in our organisation. If I may also be guilty of some generalisation, our experience of such departments suggests that they are so over-manned (perhaps with the exception of the Inland Revenue) that those who are employed by them have some difficulty in finding enough to do in the hours during which they are normally employed!

John Allen.
Moonglow, Hill Road,
Grayshott, Surrey

FINANCIAL TIMES
Monday January 14 1985

Terry Byland on Wall Street

Drugs find the right medicine

THE renewed burst of strength in the dollar has turned the attention of some Wall Street pundits back to the question they were asking themselves 12 months ago. "What are the chances of the dollar peaking out this year and what would that mean for export-orientated stocks?"

The temporary weakness in the dollar on Wednesday found an immediate response from pharmaceutical stocks, which bounced ahead vigorously. The large drug companies are international almost by definition, taking 50 per cent or more of their sales from outside the U.S. A lower dollar should improve the competitive edge of the drug companies in international markets, as well as benefiting profits when foreign earnings are repatriated.

As we now know, however, the dollar did not fall in 1984. Yet in one of those perverse moves which make markets what they are, drug stocks soared ahead strongly over the 12 months, easily outpacing the rest of the market.

Stock prices for Bristol-Myers, Upjohn, Pfizer, Warner-Lambert and several others rose by 15 per cent and more. The Standard & Poor's 400 index barely changed over the year, while the Dow Jones industrial average shaded lower.

Stock	Price $	% rise since 1983
Bristol-Myers	51⅞	21
Eli Lilly	65¼	13
Merck	92¾	2.2
Warner-Lamb.	35⅝	20

Several factors lay behind this favourable, but at first glance, irrational performance. In domestic markets, drug stocks responded to the general strength of the health care sector, which found that the new payment structure for Medicare proved a boon to efficiently managed hospitals.

The drug companies themselves were attractive to investors because of their financial strength, which showed itself in share repurchase programmes by several of the major names.

Moreover, it was a good earnings year, with Bristol-Myers, Pfizer, and Merck prominent among those likely to show profit gains of more than 10 per cent at the fiscal year-end. Maintaining the perverse side of the market's nature, the higher the dollar soared, the more convinced were some investors that its fall could not be long delayed.

As 1985 gets under way, Wall Street seems to believe that pharmaceuticals will again prove an excellent investment. Many of the bull factors of 1984 remain in play. The drug companies are still financially strong, and they will benefit increasingly from the rapid growth of the health care industry in the U.S. as well as in the UK and Europe. The big names have new drugs on the market, with excellent potential. Bristol-Myers has Buspar, a tranquillizer, Pfizer has Sorbinl for diabetes and cateract treatment, and Warner-Lambert has Maxicam for arthritis.

There are more specific reasons, however, why the drug groups are favoured.The economic outlook is less certain this year and the sector always stands out in a defensive stock market, since sales, if anything, increase as consumers reduce other, more frivolous, spending, to weather the bad times.

Wall Street profit forecasts for the sector range to around 14 per cent for fiscal 1985, which contrasts sharply with predictions for the industrial market as a whole. Some analysts are expecting a "flat" year for corporate profits, and even the optimists stop well short of 10 per cent.

Mr Ronald Nordmann of Oppenheimer expects Pfizer to increase profits by 15 per cent to $3.50 a share this year. Pfizer is strongly dollar-orientated, with more than half its sales chalked up in foreign currencies. Profit margins are strong, and Feldene, Pfizer's anti-arthritic drug, is enjoying phenomenal success in the U.S.

He also predicts a good year for Merck, profits gaining perhaps 12 per cent, despite the growing competition for its two most important drugs – Aldomet, for high blood pressure, and Indocin, an anti-arthritic compound.

Both stocks trade at around 14 times earnings, which is at the top end of the sector range, and compares with around 10.4 per cent on the S & P 400 index.

A downturn in the dollar could therefore be regarded as just the icing on the cake for the drug companies. Nevertheless, last week's upturn in the stocks, which put $1⅛ on Merck within a few minutes trading, suggests that the stocks would move smartly if the dollar began to tremble. All that, plus a 14 per cent gain in profits, could be just what the doctor ordered for pharmaceutical stocks in 1985.

STERLING'S DECLINE IS BOOSTING SALES IN BRITAIN AND ABROAD

Falling £ delights UK industry

Joan Gray, John Griffiths, Tony Jackson, Lynton McLain, Ian Rodger and Lisa Wood write on the industrialists who are making the most of every point in the pound's slide

THE FALL of sterling may be bad news for those Britons who take their holidays abroad but it has been an almost unmitigated boon for British industry, helping it to boost sales and profits both at home and abroad.

Leading industrialists who three years ago were complaining bitterly about the high value of sterling are delighted with the current exchange rate.

Mr George Russell, managing director of British Alcan Aluminium, said: "compared to what I was facing three years ago, this is a joyride."

Their pleasure is enhanced because the customary negative consequence of devaluation – rising costs of imported raw materials – has been softened by falling price trends in the major international commodities, such as oil and metals.

The improved terms of trade are not showing up much yet in official figures. By last October manufacturing output was only 2.5 per cent higher than a year earlier and the value of non-oil imports was till growing faster than that of exports.

Industry leaders interviewed in an informal FT survey last week said this was because they competed mainly with European and Japanese companies, and sterling's fall against the yen and leading European currencies had been too recent to have had a strong effect. They are confident about this year, however, provided sterling does not rise much.

Mr John Allenby, joint managing director of Lansing Bagnall, the fork lift truck maker, said: "We are acutely aware that every point slide in the pound gives us an opportunity, which we will not miss."

The main concern in industry today is that the Government will lose its nerve and continue to raise interest rates to prop up the exchange rate.

Mr David Lees, finance director of Guest Keen and Nettlefolds, said: "If, in order to keep them low, we have to make concessions on the exchange rate, that is what I would rather do."

So far companies with major trading interests in the U.S., such as British Petroleum, Grand Metropolitan and BOC, have been the main beneficiaries. The U.S. economy has been strong and the pound's sharp fall against the dollar has made their improved U.S. results look even better when expressed in sterling.

BOC's operating profits in the Americas, almost all of which come from the U.S., in the year to September 30, 1984 were up 39 per cent, but when translated into sterling, they were up by 68 per cent.

UK manufacturers with large export business in the U.S. are also doing well. The U.S. sales of Jaguar, the specialist car maker, rose from 10,349 units in 1983 to 18,000 last year. Like its main competitors, Jaguar has held its U.S. prices – in the $31,000 to $35,000 range – resulting in a big foreign exchange gain.

Jaguar officials insist they need the money badly for the group's large and long-delayed model and plant investment programmes.

Makers of agricultural tractors have enjoyed a year of healthy growth despite depressed world markets, largely because of their competitiveness in the U.S. Tractor output was up 16 per cent and total exports were up 25 per cent in value last year.

Bridgeport Textron, Britain's largest machine tool builder, enjoyed a 35 per cent rise in volume last year, partly as a result of trebled exports to the U.S. The company has taken on an additional 200 employees to meet its increased workload.

Another trend has seen U.S. manufacturers purchase more components in Britain. Mr Lees said GKN's exports to the U.S., mainly of car components, jumped more than a quarter in volume last year. This was not so much because of new contracts or customers but because U.S. manufacturers, in cases of dual sourcing, bought more from the cheaper source.

On the negative side, the decline of sterling against the dollar increases the material costs of most of British industry, and in some cases, the financing costs too. John Brown, the engineering group, almost went bankrupt two years ago because the earnings of its U.S. subsidiaries slumped so that more sterling was needed to pay the interest on its large dollar borrowings. UK industrialists say they now ensure that their dollar borrowings are well covered by dollar earnings.

Materials costs are more difficult to control. ICI, for example, spends about $1.1bn a year on oil and chemical feedstocks. The British Steel Corporation spends about £1.5bn ($1.7bn) on raw materials, most of which are imported and paid for in dollars.

BSC has said every one cent decline in the value of sterling costs it about £4m. Most large commodity purchases are arranged on long-term contracts, but anyone who used the spot markets last year would have been able to offset the effect of the more expensive dollar. Oil and alumina prices fell by about a tenth in dollar terms, while iron ore prices were flat.

Some industries which import materials paid for in dollars can more than offset these costs by pricing their finished product sales in dollars as well. The aerospace industry is perhaps the best example, with most sales of civil aircraft and engines around the world made in dollars. A British Aerospace official said: "There is nothing we would like better than for the dollar to stay where it is."

THE POUND AGAINST MAIN TRADING CURRENCIES

Currency	Fall since 11.1.84 %	Fall since 11.7.84 %
U.S.$	19.4	14.4
DM	10.6	5.5
Y	12.8	10.4
FFr	10.4	5.4
IL	8.9	4.8
SFr	5.6	6.6

Distillers has the double advantage of having all its raw materials available locally and selling a large part of its exports in dollars. In today's depressed whisky markets, however, the main benefit is that the company has been able to hold prices in the important U.S. market for three years without suffering.

Other industries, especially those exporting mainly to European countries, have had a tougher time. The machine tool industry has to import almost all the electronic controls for its machines from the U.S., other European countries or Japan. Mr Stephen LeBeau, marketing director of Bridgeport, said the cost of these controls was up as much as 35 per cent in sterling terms in the past year. "And we cannot recover these costs on sales to, say, French customers because the pound has not moved that much against the French franc."

That is one reason why the recent decline of sterling against the yen and most leading European currencies is probably an even more welcome development for much of British industry than the move against the dollar.

It holds out the prospect of significant changes in the sourcing patterns in the motor industry. Ford imports about 30 per cent of its vehicles sold in the UK from continental Europe. A company spokesman said substantial changes in sourcing could occur in the future, but only on clear evidence that the pound had settled at a lower level.

There could be a more immediate effect at Austin Rover. The company is aiming to sell 110,000 cars in Europe this year, 37 per cent more than in each of the past two years. Reaching this ambitious target will be helped by a more competitive exchange rate.

The weakening of sterling could also take some steam out of the threat by the Austin Rover chairman, Mr Harold Musgrove, to make more of the group's £800m worth of annual purchases abroad in its search for lower costs. Mr David Allday, finance director of AE, said even West German motor companies had started to look at UK component suppliers as a way of reducing costs. "I suspect they are using UK prices to beat down their indigenous suppliers, but that's good for them and for us."

Elsewhere in the engineering industry similar changes are occurring. Mr Allenby of Lansing said there were indications that "importers are finding it a little harder to let customers name their price." He was also looking forward to improving margins on the company's continental European sales, where subsidiaries were still trading at break even at best. Lansing exports 40 per cent of its output and two thirds of the exports go to the continent.

The company wanted to switch its purchases of ballast weights, masts and braking systems to the UK from European suppliers. "We are reviewing the situation daily, but the exchange rate moves have been too short and too shaky so far," Mr Allenby said.

Mr Russell said British Alcan was still having difficulty penetrating European markets because of the strength of competitor producers in France and West Germany, "but we are getting more invitations to quote."

Large capital goods makers and engineering contractors said the lower exchange rate could help them win overseas orders, particularly when, in the cases of power stations and steelworks, for example, they are based on significant UK manufacture.

Mr John Lippitt, export director of the General Electric Company, said: "The currency we tend to watch most is the yen. We usually find in a tender battle that when we have overcome everyone else, we end up slugging it out with a Japanese contractor."

It should also mean that contractors buy more materials for their overseas projects in the UK. Mr Tyrell Wyatt, chairman of Costain, said "We buy equipment, materials and labour from the lowest price source so we are not directly affected by the lower pound, but it could help the degree to which we source things in the UK."

THE LEX COLUMN

A blueprint for Midland Bank

Midland Bank's justification for holding its 1984 dividend is by now thoroughly familiar. A reduced payment, so the argument runs, would save very little money in the context of the group as a whole and might cause a damaging loss of confidence on the part of depositors. In achieving a marginal improvement to its capital ratio the bank could suffer a sudden deterioration in its liquidity position.

That view admittedly has something to recommend it, but it cannot be right that a policy which would be seen as commercial lunacy in an industrial company suddenly becomes sound practice in a clearing bank. From a financial perspective the argument is palpable nonsense.

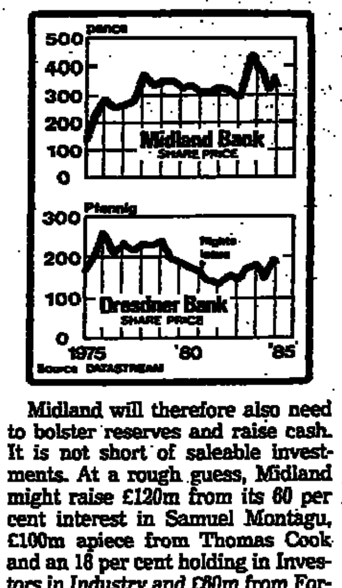
In 1979 Midland saw fit to pay a dividend covered 5.9 times by earnings. Four years later the cover had slipped to 2.4 times and the £58m net payment on 1984's results will, by the bank's own admission, be met partly from reserves. With such a history of progressively declining dividend cover Midland cannot convincingly argue that the 1984 payment is justified by the current year's prospects.

The stock market, after all, values Midland's equity on a yield of 10.5 per cent – equivalent to the average gross redemption yield on high coupon long-dated gilts – so the dividend looks far too high in relation to the bank's market worth. At the present rate Midland would redistribute the proceeds of a conventional one-for-four rights issue to its shareholders in just over two years.

Free capital

Even if Midland manages to restore the dividend cover of two or three years ago, it will still be paying out more than is justified by its recurrent earnings stream or its balance sheet. The losses from Crocker have reduced Midland's free capital ratio to about 4 per cent, the sort of level which causes the Bank of England to pay polite but regular visits.

So, among other things, Midland must try to shrink its asset base. That is easier said than done. Readily saleable banking assets tend to be of both high quality and short maturity. The danger in shrinkage is that, while the overall balance sheet may decline in relation to the capital base, the remaining assets are illiquid and of doubtful quality. Moreover, it is notoriously difficult to reduce overheads at the same pace as loans, and even if the bank is successful in reducing its volume of business, it may find that an appreciating dollar keeps the loan book rising in sterling terms.



Midland will therefore also need to bolster reserves and raise cash. It is not short of saleable investments. At a rough guess, Midland might raise £120m from its 60 per cent interest in Samuel Montagu, £100m apiece from Thomas Cook and an 18 per cent holding in Investors in Industry and £80m from Forward Trust. At a push, it could sell Northern and Clydesdale banks.

The difficulty with this approach is that several of the investments – most notably Samuel Montagu and Thomas Cook – are probably worth more to Midland than to anyone else. Royal Bank of Scotland is in the process of buying an accepting house and if the name of the game is selling merchant banking services to commercial banking customers, it would be pretty daft to sell Montagu.

Similarly, if the trend in retail banking is towards Saturday opening, it would not make much sense to sell Thomas Cook, which already opens on Saturday and – more important – gives Midland a window on the market for personal financial products.

Midland has already started to sell property and could in theory boost profits and liquidity through an enormous sale and leaseback operation on a freehold estate valued in the books at more than £1bn.

Quite apart from the practical difficulties of such an operation, however, it would leave Midland a hostage to fortune. If the rent on the properties came to exceed the return on the cash released Midland would find itself at a commercial disadvantage to its retail banking competitors. The same argument applies to the investment disposals. A series of quick fixes might restore Midland's liquidity and capital ratios to the industry average but at the same time jeopardise the bank's long-term competitive position.

Given Midland's problems, it is not surprising that thoughts have turned to a possible takeover. On the face of it this is an appealing idea. Going to extremes, a bidder could pay a 50 per cent premium to Midland's market value, write £500m off the loan book and invest £500m of new capital – and the acquisition would still cost only £1.7bn with no goodwill being incurred. If Midland could be made to produce a 1 per cent return on its gross assets – a common industry yardstick – the lucky purchaser would be showing a pre-tax return of about 30 per cent on the investment.

The problem is that none of the names most often mentioned – BAT, BP and GEC – seems to show the slightest interest in the idea and, in view of the track record, it is not hard to see why. Meanwhile, it is a fair bet that a foreign bidder would be blocked and a merger with another clearing bank looks out of the question.

Any bank smaller than Lloyds would make insufficient impact, while any bank bigger than Lloyds would upset the competitive balance in the marketplace. Putting Lloyds together with Midland would create more problems than it solves, not least in South America.

Rights issue

With the options apparently so limited, Midland could do worse than consider the unusual case of Dresdner Bank, which in early 1981 simultaneously cut its dividend and launched a rights issue. This kind of financial conjuring trick is admittedly easier to pull off in Frankfurt, where the banks effectively control the stock market, than in London, and a rights issue on the Dresdner scale – a one-for-eight – would not be worth the candle for Midland.

The merit of the idea, however, is that Midland could simultaneously reduce its dividend to a realistic level and pre-empt liquidity worries by raising cash. If Midland could convince its shareholders that the maintenance of the dividend is against their long-term interests, which it most certainly is, and persuade its wholesale depositors that the rights issue would strengthen the bank, which indeed it would, two birds might be killed with one stone.

The rights issue would clearly need to be very heavy – at least a one-for-two – and pitched at a substantial discount of say 40 per cent. And Midland would need to show that it was taking other steps to set its house in order, including the disposal of non-strategic investments and the odd change in senior management. Presented as a package, it might just provide a way out. The Dresdner Bank share price, after all, hit a low just before the rights issue and never looked back.

Moscow warning on arms

Continued from Page 1

tiate limits on it, but to ensure a smooth transition to its emergence as the new strategic deterrent – replacing offensive nuclear missiles.

He added that the U.S. had no intention either of delaying further tests of its anti-satellite system this spring, nor had there been any suggestion that it should do so.

Mr Weinberger said he thought that the "linkage" between the three sets of talks agreed in Geneva, on strategic, intermediate and space weapons, had not been settled

It is clear that Mr Shultz deliberately adopted ambiguous wording in Geneva to paper over their differences on whether the lack of progress in one set of talks should prevent progress in the others. Mr Gromyko had originally argued that there should be one single negotiation to cover all the issues.

The final wording said that "the sides agreed that the subject of negotiations will be a complex of questions concerning space and nuclear arms, both strategic and intermediate range, with all the questions considered and resolved in their inter-relationship."

S.Africa appraises Kennedy message

BY ANTHONY ROBINSON IN JOHANNESBURG

"I WILL never forget you," were Senator Edward Kennedy's last words to the black people of South Africa as he flew off from Johannesburg's Jan Smuts airport yesterday after eight days dedicated to probing the most sensitive sores of apartheid in front of the world's television cameras.

It is a sentiment likely to be reciprocated by the Nationalist Government and the South Africans for whom last week's travelling extravaganza provided the spectacle of a daily clash between the authorities and the self-appointed scourge of racial discrimination.

It was a visit full of ironies, not the least being the fact that the most vocal criticism of the Senator came not from crusty Afrikaner defenders of the status quo, as he doubtless expected, but from radical blacks who accused him of being a stooge of the CIA and representative of exploitative capitalism.

The threat of disruptions yesterday forced him to abandon a scheduled appearance with Bishop Desmond Tutu at a church in the black township of Soweto.

South Africa's state-controlled television, which usually condemns black radicals as terrorists and dupes of Moscow, gleefully panned over the riotous scenes and used them to put across its own message that Senator Kennedy was not the man to preach morality to South Africans and had only come to boost his electoral prospects with black voters at home.

The Senator also had a nasty surprise when U.S. ambassador Herman Nickel launched into a strong defence of President Reagan's "constructive engagement" policies of quiet persuasion and attacked the "naivety" of those who advocated disinvestment.

But Mr Kennedy, a tough professional schooled in the hard knocks of American politics, gave as good as he got. He warned white South Africans that apartheid had now become an issue that would not go way and hinted strongly that when he got back home he would urge U.S. business and the Congress to introduce economic sanctions against South Africa unless the country came up with specific progress in three key areas: forced removals of blacks, south African citizenship for all and black voting rights.

Japanese industry loses edge

Continued from Page 1

the survey expresses "grave doubts" about whether those will be enough to offset "very deep-seated structural problems."

The report notes that France and Italy – the worst placed leading industrialised nations – both trail far behind Britain.

France has slipped even lower down the competitiveness league, and business morale is so low in the French business community that its confidence level trails behind all of the developing countries in the survey except Mexico. Whatever policies are followed now, the structural inadequacies are such that it would take some time for the French economy to regain a reasonable growth path.

France comes 27th in the state interference category. The only country behind it is Italy, which comes bottom. Overall Italy is again last among the leading industrial nations and the level of business confidence has fallen again.

EMF sixth annual report on international competitiveness, European Management Forum, 53 Chemin des Hauts-Crêts, CH-1223 Cologny-Geneva, Switzerland.

World Weather

		°C	°F			°C	°F			°C	°F			°C	°F
Ajaccio	F	13	55	Dubrovnik	S	5	41	Malaga	F	7	45	Salzburg	Sn	-8	18
Akrotiri	F	17	63	Faro	R	10	50	Malta	R	11	52	Seoul	-	-	-
Algiers	C	8	46	Florence	Sn	-1	30	Manila	-	-	-	Singapore	S	31	88
Amsterdam	S	-6	21	Frankfurt	S	-9	16	Miami	-	-	-	Stockholm	C	-5	23
Athens	C	10	50	Funchal	C	17	63	Milan	C	-4	25	Strasbourg	S	-8	18
Bahrain	-	-	-	Geneva	C	-5	23	Moscow	Sn	-11	12	Sydney	S	30	86
Bangkok	-	-	-	Gibraltar	C	9	48	Munich	S	-13	9	Taipei	-	-	-
Barcelona	Sl	0	32	Guernsey	Sn	0	32	Nairobi	-	-	-	Tangier	F	11	52
Beirut	R	14	57	Helsinki	S	-14	7	Naples	C	5	41	Tehran	-	-	-
Belgrade	S	-6	21	H. Kong	C	16	61	New Delhi	S	17	63	Tel Aviv	-	-	-
Berlin	Sn	-9	16	Innsbruck	S	-6	21	New York	-	-	-	Tenerife	S	20	68
Biarritz	C	-1	30	Inverness	-	-	-	Nice	R	2	36	Tokyo	S	9	48
Blackpool	Sn	0	32	Istanbul	S	3	37	Oporto	S	8	46	Toronto	-	-	-
Bordeaux	Sn	-5	23	Jersey	C	-2	28	Oslo	S	-12	10	Tunis	F	11	52
Brussels	Sn	-8	18	Jo'burg	F	27	81	Paris	S	-5	23	Valencia	S	7	45
Budapest	S	-9	16	Las Palmas	S	20	68	Prague	Sn	-12	10	Venice	F	0	32
B. Aires	-	-	-	Lima	-	-	-	Reykjavik	S	3	37	Vienna	Sn	-10	14
Cairo	F	21	70	Lisbon	R	5	41	Rio de J'o	-	-	-	Warsaw	Sn	-9	16
Cape Town	R	21	70	Locarno	C	-2	28	Rome	R	4	39	Zurich	F	-8	18
Caracas	-	-	-	London	Sn	-1	30								
Casablanca	C	11	52	Los Angeles	-	-	-								
Copenhagen	S	-7	19	Luxembourg	S	-8	16								
Corfu	S	8	46	Madrid	S	1	34								
Dublin	C	4	39	Majorca	S	9	48								

Readings at mid-day yesterday.

C-Cloudy D-Drizzle F-Fair Fg-Fog R-Rain S-Sun Sl-Sleet Sn-Snow T-Thunder

Cash offer to Laker

Continued from Page 1

Mr Morris, in turn, has allowed Linklaters on behalf of BA to sound out the Laker creditors directly as to the prospective settlement terms. They are:

- Payment in full for the 16,000 or so creditors owed less than £50,000 ($56,000);
- Payment of £50,000 plus 20p in the pound of any excess amount for the 59 registered trade creditors who are owed more than £50,000;
- Various payments, subject to individual agreement, for the seven leading creditors: Midland Bank, Eximbank, Mitsui, Clydesdale Bank, McDonnell Douglas, Airbus Industrie and General Electric of the U.S.

If a deal is struck, smaller creditors will be invited to apply for their money from Ivanhoe Investments, a Jersey company set up for the purpose by BA and handled as a trust fund by National Westminster Bank. Of the trade creditors, some 49 are thought to have accepted the offered terms.

The settlement of the seven big creditors, though, seems likely to require a good deal more discussion. BA has indicated that the total deal as presently structured might cost the co-defendants $40m to $50m. But no clear figure is available of the outstanding Laker debts in Mr Morris's books.

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SECTION II – COMPANIES AND MARKETS
FINANCIAL TIMES
Monday January 14 1985

Cost-cutting credit vehicle that is not to be sniffed at

IT IS not so easy these days in the Euromarkets to turn up your nose at a Snif, writes Peter Montagnon in London.

For Snifs, or syndicated-note issuance facilities as they are known to the trade, have already largely replaced the syndicated loan as an important capital-market vehicle for top-rated borrowers.

Now, as the new year gets under way, it seems likely that lesser-rated borrowers will also want to try their luck in that market in the hope of reducing their costs.

Portugal, for example, is already pondering the mechanism as it draws up plans for a large borrowing to be launched probably within the next few weeks. The deal, amounting to some $300m to $500m, will be the Republic's only big borrowing exercise this year.

Portugal's credit rating has greatly improved since 1983, when it had to seek assistance from the International Monetary Fund and was frequently touted as a likely European candidate for rescheduling in Latin American style. Last year its current-account deficit was only some $550m – far below the IMF target of $1.25bn – and this year it is also likely to be well below $1bn.

None the less, it is only just emerging from an IMF programme and already has a relatively high total debt of $15.1bn. That means it is far from being the sort of borrower that normally qualifies for a note facility. Those facilities involve the continuous sale of short-term paper in the money markets and some bankers fear that Portuguese paper might simply not be good enough to sell.

From one perspective, that argument makes little objective sense. The risk run by an investor who purchases a Euronote is not actually that the borrower will not repay when it matures but that the underwriters whose job it is to back up the facility might for some reason prove unable or unwilling to step in with the cash required to refinance the note. In that sense, investors need to look more closely at the quality of the underwriting group than at the end borrower itself.

That means that the ability of a borrower to find underwriters for its facility acts as the main constraint on its eligibility to tap the Euronote market. In trying to tap the market for $500m, albeit using a facility linked to short-term bank advances rather than Euronotes proper, Turkey has already run up against that difficulty. After assembling only seven lead managers willing to underwrite $30m apiece, Citicorp, which is arranging the deal, has now lowered its sights and is seeking more lead managers at only $20m.

The difficulty is not just that a Turkish advance or a Portuguese Euronote might prove hard to sell in a market where it has to compete with higher-ranking paper. For such borrowers there is also the obstacle that underwriting banks are having to add to their country exposure for what might be a relatively poor return at a time when concern is growing at the overall size of their standby commitments.

However, bankers believe that the smaller commitment now being sought from banks invited to enter the Turkish deal should mean a rapid increase in the size of the lead management group.

A successful deal for Turkey implies that even Portugal should be able to tap the Euronote market for reasonably large amounts – provided that the underwriting return is pitched high enough.

EUROBOND TURNOVER
(nominal value in $m)

	Cedel	Euroclear
U.S.$ bonds		
Last week	7,037.0	2,195.0
Previous week	5,792.9	3,650.5
Other bonds		
Last week	1,017.7	257.6
Previous week	2,065.1	1,066.0

Bond issue blizzard forms drifts that could linger for weeks

THE blizzard of new issues in the Eurobond market last week was heavier than the snowfalls in Europe, writes Maggie Urry in London.

Some of the deals quickly melted away from syndicate managers' books, but a lot of paper has formed drifts which could linger for weeks.

Close to $3.5bn was called for last week, taking all types of U.S. dollar deals together. Of that, at least $1bn is reckoned still to be unsold, and while the steepness of the yield curve allows syndicate managers to fund their holdings cheaply, the big issuing houses must clear paper off their books to make room for the next bunch of deals to come. In that situation, the houses with good retail distribution come out on top.

The question now is whether syndicate managers have lost enough money on last week's difficult deals to deter them from bidding too aggressively this week. There is no doubt that big losses have been made.

Opinion is divided over whether the losses have got too big.

Once again, however, the deals that went best were those for Japanese borrowers such as NTT, IBJ, Orient Finance and Sumitomo. By now everyone has realised that these bonds go straight back to Japan where the institutions can use a loophole in the Ministry of Finance's rules on overseas investment to increase their exposure to higher yielding dollar debt. It must be assumed that the Ministry of Finance has realised this, too. While it means that Japanese borrowers can fund cheaply by making Eurodollar bond issues, the ministry may be thinking of ways to put a stop to the practice.

The European currency unit sector always seems to enjoy its new issues, with coupons coming under the 10 per cent level now. On Friday, Mitsubishi Finance, which has just started making a market in Ecu issues, launched a deal for Banca Nazionale dell'Agricoltura. It traded at a ¼ point discount to its yet-to-be-fixed issue price.

In the sterling sector, Morgan Grenfell's floating rate note deal for the specially formed company, Mini-Mortgage Intermediary Note Issuer, could be the first of many. The idea of funding mortgages in the bond market must appeal to other banks in the mortgage business which would like to get the loans off their balance sheet.

The D-Mark bond market had planned its heavy week of issues. By Friday that market was in difficulties as fears of a rise in interest rates were rumoured and the dollar continued to rise. Over the week, prices fell by ¼ point, with most of that on Friday.

As well as the innovations from KLM and Sweden, the Swiss franc bond market had a happier week with prices gaining as much as ½ point in places. Political pressures on Oesterreichische Donaukraftwerke to delay its planned power station meant a sharp reduction in its 10-year issue to SwFr 70m from a previous maximum of SwFr 150m.

● Pressure on space caused by the unprecedented number of new bond issues last week means that only book runners names are listed in the table below.

NEW INTERNATIONAL BOND ISSUES

Borrowers	Amount m.	Maturity	Av. life years	Coupon %	Price	Lead Manager	Offer yield %
U.S. DOLLARS							
Nippon Tel. & Tel. ‡	100	1992	7	10⅝	100	Bqe Paribas	10.625
Citicorp. (a) †‡	250	1997	12	¼	100	CSFB	–
Orient Finance ‡	50	1992	7	11	100	Nomura Int.	11.000
UBAF (b) †‡	100	1995	10	⅛	100	Merrill Lynch	–
Federated Dept. Stores ‡	100	1990	5	11	100	Lehman Bros.	11.000
Boise Cascade ‡	50	1992	7	12	100	CSFB	12.000
Tokyu Corp. ¶	40	1990	5	(8¼)	100	Yamaichi Int. (Eur)	*
IBM (d) ‡	300	1989	4	10⅜	100	Salomon Bros.	10.375
Yamato Kogyo ¶	30	1990	5	(8⅛)	100	Daiwa Europe	*
Osaka Transformer ¶	20	1990	5	(8¼)	100	Nomura Int.	*
IBJ Ltd. ‡	100	1992	7	10¾	100	IBJ Int.	10.750
IBJ Ltd. ‡	100	1995	10	10⅞	100	IBJ Int.	10.875
Tenneco Corp. ‡	150	1989	4	11½	100	Mgn. Stanley	11.500
Ford Motor Credit ‡	100	1990	5	11⅜	99⅞	Goldman Sachs	11.489
Ford Motor Credit ‡	100	1995	10	12	99⅝	Goldman Sachs	12.067
Denmark ‡	100	1992	7	11½	100¼	County Bank	11.446
Banque Indosuez ‡	100	1992	7½	11⅝	100	CSFB	11.625
Eksportfinans ‡	100	1992	7	11¼	100	Chase Manhattan	11.250
G. E. Credit (d) ‡	200	1990	5	10⅜	99.675	Mgn. Stanley	10.462
S.E.K. (e) ‡	100	1988	3	10¾	100⅛	Mgn. Stanley	10.699
Suntory**	20	1992	7	(11¼)	100.15	Daiwa Europe	*
Austria (f) ‡	115	1995	10	11¼	98¾	S. G. Warburg	11.466
Citicorp ‡	100	1992	7	11¾	99¾	Salomon Bros.	11.804
World Bank ‡	300	1992	7	11	99½	Deutsche Bank	11.107
New England Life ‡	59.725	1992	4.2	11½	100	Salomon Bros.	11.500
New England Life ‡	149.09	1995	9.2	11¾	100	Salomon Bros.	11.750
New England Life ‡	89.85	1999	14	0	20.40	Salomon Bros.	11.990
Nat. Bank of Hungary (g) †‡	100	2000	15	⅝	100	Nomura Int.	–
Sumitomo Corp. ‡	100	1992	7	10⅝	100	Goldman Sachs	10.625
Chugoku Elec. Power ‡	50	1992	7	10⅞	100	Nikko Secs (Eur)	10.875
Mitsubishi Corp. ‡	200	1995	10	10⅝	100	Merrill Lynch	10.625
CANADIAN DOLLARS							
Zentralsparkasse ‡	50	1995	10	11⅞	100	Orion Royal Bank	11.875
City of Quebec (d) ‡	45	1992	7	11½	100⅛	Orion Royal Bank	11.473
Australian Res. Dev. Bk. ‡	50	1992	7	11⅝	100	SBCI	11.625
Prov. of Nova Scotia ‡	100	1995	10	11⅝	100½	Orion Royal Bank	11.538
Denmark ‡	100	1991	6	11⅝	100¼	Merrill Lynch	11.565
D-MARKS							
Finland ‡	200	1992	7	7	100	Dresdner Bank	7.000
City of Copenhagen ‡	150	1995	8	7⅜	100	Deutsche Bank	7.375
ECSC** ‡	94	1992	6.55	7⅛	100	Commerzbank	7.125
CEPME ‡	200	1997	12	7¼	99½	Commerzbank	7.314
Ireland ‡	200	1995	10	7⅜	100	Commerzbank	7.375
SWISS FRANCS							
Yubshin Co.** §‡	30	1990	–	2	100	UBS	2.000
Tokyu Store** §‡	50	1990	–	2	100	Swiss Volksbank	2.000
Japan Elec. Computer** ‡	50	1990	–	5⅝	100	Bqe Paribas (Suisse)	5.625
Mitsubishi Rayon** §	150	1990	–	(2)	*	UBS	*
Donaukraftwerke ‡	70	1995	–	5⅜	100	UBS	5.375
Aumar** ‡	100	1991	–	6	99½	UBS	6.102
Sharp Corp.** §	200	1990	–	(2)	100	Crédit Suisse	*
Topy Industries** ¶	40	1990	–	(3¾)	*	Swiss Volksbank	*
Tohoku Elec. Power	150 max	1993	–	5⅝	*	UBS	*
Sharp Corp. §	150	1993	–	(2)	100	Crédit Suisse	*
Sweden**	100	1986	–	4⅝	*	Tender Sale	–
Koa Denko** §	30	1990	–	(2⅛)	100	Crédit Suisse	*
KLM (h)	200	–	–	(6¼)	*	Kredietbank (Suisse)	*
STERLING							
Mortgage Intermediary (c) †‡	50	2010	7–8	⅜	100	Mgn. Grenfell	–
American Medical Int. ‡	40	1995	10	11¼	100	Barclays Merchant Bk.	11.250
ECUs							
PIBA ‡	50	1992	7	9¾	100¼	Bqe Paribas	9.699
B. Naz. Agricoltura	50	1992	7	10	*	Mitsubishi Fin.	*
YEN							
Intel ‡	12.5bn	1992	7	6⅝	99¾	Citicorp. Int.	6.671
EDF ‡	20bn	1995	10	6⅞	100	Daiwa Europe	6.875
EIB ‡	30bn	1995	9	6.7	99.6	Nomura Secs	6.756
GUILDERS							
IADB ‡	200	1995	8	7¾	100	ABN, AmRo	7.750
ITT** ‡	100	1990	5	7	99¾	AmRo. ABN	7.061
FRENCH FRANCS							
EEC ‡	1bn	1997	12	12.3	100	Bqe Paribas	12.300
LUXEMBOURG FRANCS							
EIB ‡	1bn	1995	10	9½	100	Bqe Generale du Lux.	9.500
BELGIAN FRANCS							
EIB** ‡	2bn	2008	11	11⅝	99⅛	Bqe du Benelux	11.752

* Not yet priced. ‡ Final terms. ** Private placement. § Convertible. † Floating-rate note. ¶ With equity warrants. (a) 1¼ over 3-m Libid; (b) ⅛ over 6-m Libor. (c) ⅜ over-3-m Libor. (d) Extensible to 2000. (e) Extensible to 1994. (f) $85m additional tap. (g) ⅝ over 6-m Libor. (h) Perpetual; refixed after 10 years. Note: Yields are calculated on AIBD basis.

U.S. MONEY AND CREDIT

Uncertainties keep investors ultra-cautious

INVESTORS in the U.S. *government bond market* are playing it safe. They are beset by uncertainties about the strength of the rebound in U.S. economic activity and how the Fed will respond to the apparent pick-up in monetary growth, which is coinciding with slumping commodity prices and a record-breaking dollar. They remain ultra cautious.

This is most evident in the widening of the yield curve in the final quarter of 1984, reflecting the sharp decline in U.S. short-term rates. Long yields have changed little since early November, while bill rates have plunged by nearly *150 basis points. The result is* a sharply positive sloping yield curve and an all-time record 238 basis point gap between one and seven year yields.

This trend continued last week as money market rates fell by between 5 and 15 basis points, while the yield on the 20-year bond fell just 4 basis points and the Treasury *long* bond yield, with the price stuck on 101, was unchanged at the Friday close at 12.62 per cent.

Market nervousness has been heightened in recent weeks by a series of developments.

U.S. MONEY MARKET RATES (%)

	Last Friday	1 week ago	4 wks ago	—12-month— High	Low
Fed Funds (weekly average)	8.21	8.77	8.55	11.77	7.82
Three-month Treasury bills	7.77	7.82	8.08	10.77	7.61
Six-month Treasury bills	8.05	8.16	8.25	10.83	7.87
Three-month prime CDs	8.20	8.25	8.65	11.90	8.15
30-day Commercial Paper	7.90	8.10	8.50	11.38	7.88
90-day Commercial Paper	8.00	8.20	8.65	11.40	8.00

U.S. BOND PRICES AND YIELDS (%)

	Last Friday	Change on week	Yield	1 week ago	4 wks ago
Seven-year Treasury	100¼	+ ⅜	11.47	11.55	(new)
20-year Treasury	98¾	+ ⅛	11.78	11.82	11.70
30-year Treasury	101	—	11.62	11.62	11.59
New 10-year "A" Financial	N/A	—	12.30	12.30	12.25
New "AA" Long utility	N/A	+ 1	12.75	12.88	12.60
New "AA" Long industrial	N/A	+ 1	12.38	12.51	12.51

Source: Salomon Bros (estimates).

Money Supply: In the week ended December 31 M1 fell by $500m to $557.2bn from an upwardly revised $557.7bn. In December M2 increased by $29.2bn to $2,375.5bn and M3 by $33.6bn to $1,289bn from the previous month.

First, as was to be expected after the recent shift in Fed monetary policy towards more accommodation, the monetary aggregates have bounced back. Also, as the reaction to last *week's smaller than expected* $500m M1 decline showed, the markets have once again become extremely jittery about the weekly number.

M1 and M2 rose at annualised rates of 10.7 per cent and 14.8 per cent respectively in December. While both money supply measures remain within the Fed's current targets (M2 by a mere $5bn) most economists expect further gains. "The *December levels are sufficiently* high that in the face of strong *reserve* growth, above-target monetary growth is likely in the early months of 1985," says Mr Frank Mastrapasqua of Smith, Barney.

Second, there is growing evidence of some accompanying rebound in economic activity—although the signals remain mixed.

A flood of December economic data is due out this week and, as Dr Henry Kaufman of Salomon Brothers notes: "December empolyment gains suggest associated increases in personal income and industrial production. Therefore the market will be watching for the trends in retail sales and consumption due out this week.

"If strong, they would indicate the probable drawdown of the inventory overhang and confirm the growing sense that the economic slowdown is past."

Third, because of special seasonal factors, little can be read into the Fed's recent open market activities—like the system repurchase agreements arranged on Friday, when the Fed funds rate threatened to break new ground—or the draining operations that are *expected this week.*

Faced with a lack of clear pointers towards Fed intentions, the markets have turned inward to speculation—including some about the implications of the cabinet changes announced last week and in particular about the shift to the White House of Long-time Fed-critic Mr Donald Regan, and his replacement at the Treasury by Mr James Baker.

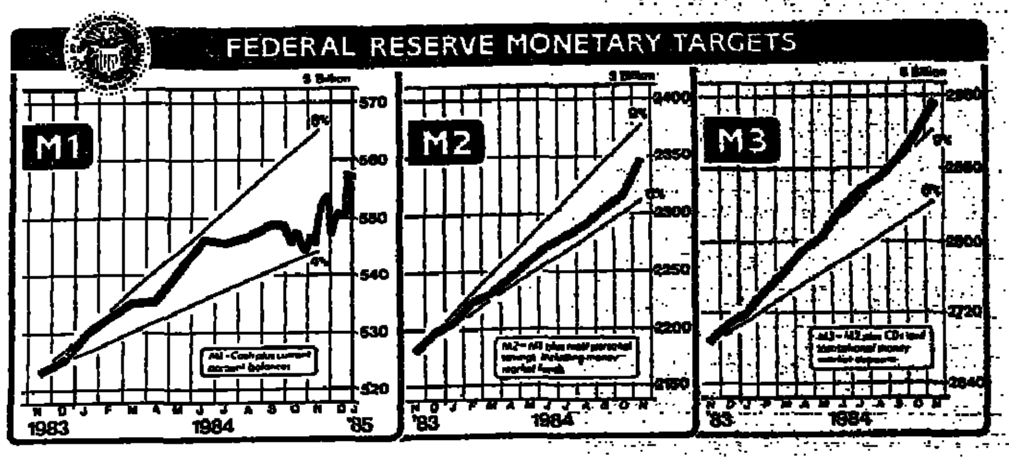
The comments made by Mr Paul Volcker, the Fed chairman, last week gave nothing away. Indeed, some economists suggested that the Fed chairman appeared to have deliberately set out to avoid new themes.

Nevertheless the equity markets, and the credit markets to a lesser extent, found something to cheer about in Mr Volcker's positive statements about retreating inflationary expectations and the added "*flexibility*" that the strong dollar afforded the monetary authorities.

Indeed, at the bottom line, it is the Fed's reaction to the same uncertainties which currently dog the markets that will determine the outcome of the current "price impasse."

On this issue Wall Street is deeply split, although those economists who believe the Fed will ease further because of deflationary concerns and other factors—irrespective of a pick-up in the domestic economy—probably still just hold sway.

"At the very least," says Mr Philip Braverman of Briggs Schaedle, "it seems probable that the Fed will keep policy unchanged for an extended period, despite the rebound in economic and monetary growth."



The volatile and nervous nature of the U.S. markets was also apparent last week in the corporate sector, where prices fell by ⅜ of a point and ½ of a point on medium- and long-term issues repsectively. But new issue yield declined, perhaps reflecting the current shortage of supply.

New issue rates on medium-term issues were unchanged to 10 basis points lower while long-term issues fell by up to 15 basis points.

Last week saw $410m of new paper come to market compared to zero the preceding week. In the first two weeks of last year volume totalled $2.5bn, according to First Boston figures. Among the new issues Boise Cascade sold $100m of eight-year notes to yield 12 per cent and Zenith Electronics offered $75m of 10-year 12½ per cent paper priced to yield 12.191 per cent.

Paul Taylor

UK GILTS

Slide in sterling ends earlier euphoria

THE EUPHORIA was short-lived. The initial surge in gilt-edged prices last week following better than expected money supply *figures was quickly re*versed by the impact of sterling's slide.

The pound's failure to react to the rise in base rates to 10½ per cent on Friday left many wondering whether this week might see an action replay of events last July, when rates rose by 2½ points in two stages.

Yields for long-dated stocks, which had fallen to 10.35 per cent in the immediate aftermath of Tuesday's money supply figures, were back up to over 10.5 per cent by Friday's close.

The authorities' decision to hold back from any new funding tempered only slightly the slump *in confidence.*

The rise in rates, following two weeks in which the Treasury and Bank of England had been intent on resisting such a move, confirmed the suspicions of many that sterling's weakness could not be blamed simply on dollar strength and falling oil prices.

The money figures, showing a ½ per cent drop in sterling M3 which took it back to the top of its 6 to 10 per cent target range, *at first brought gains of* 1½ points or so at the long end of the market.

The message from the exchange rate, however, was that money was far from tight, a view given added weight by the strength of bank lending during December.

And the perception—at least until Friday—that the Government was prepared to take risks with sterling rather than push up interest rates added to the market's nervousness.

By yesterday it had become clear that the Government is worried about the pound's *slide, and ready to see another* rise in base rates if it continues.

Whether this concern will in itself be enough to bolster confidence is far from certain, although the authorities are hoping that firmer oil prices and the possibility of lower U.S. interest rates could put at least a temporary prop under sterling.

If not, many brokers expect a repeat of July, with yields *moving up to 11 per cent or so* before the Government is able to resume its funding operations.

Last week in fact saw the first official gilt sales since early December, as the Government broker took advantage of the favourable reaction to the money supply figures to sell out of the 9½ per cent Exchequer 1998 tap stock.

The sales, however, amounted only to an estimated £75m, hardly sufficient to have any significant impact on sterling M3 in the January banking month which ends on this coming Wednesday.

The Government broker now has only three specialist stocks on offer—the index linked 2½ per cent Treasury 2001, the index linked 2½ per cent Treasury 2011, and the conventional 2½ per cent Exchequer 1987.

Until the rise in base rates, the market had expected the authorities to supplement these by announcing the issue of a series of new tranches of existing stock.

Sterling's fall below $1.12 on Friday afternoon obviously persuaded them that such a move would only have unsettled the market further. If calm were to be restored early this week, however, it should anyway be able to issue some new stocks before Wednesday.

But the present gloom in the gilt-edged market should not be overstated. Those looking at events last July will remember that the recovery in the market was almost as rapid as its fall.

On this occasion the break on any fall is likely to be strengthened by buoyant institution liquidity, and by the fact that U.S. interest rates have dropped dramatically since the middle of last year.

There is also, of course, at least a chance that the Government's more concerned attitude to the exchange rate could restore confidence, or that a further spell of cold weather will come to the rescue.

Philip Stephens

FT/AIBD INTERNATIONAL BOND SERVICE

U.S. DOLLAR STRAIGHTS	Issued	Price	Chg. on week	Yield
Aegon Insur 11⅞ 91	50	101⅛	0	11.54
AHFC O/S Fin 11½ 94	100	99½	+0⅛	11.90
All Nippon Air 14 94	100	111¼	0	11.84
Amor Savings 12 89	125	100⅜	−0⅞	11.85
Amer Saving 12¼ 89	100	100¾	−0⅞	11.97
Asian Dev Bk 11½ 93	100	99	+0⅛	11.92
Australia 11¼ 90	100	102⅝	+0⅛	10.54
Australia 11½ 95	300	100⅝	+0¼	11.38
Australia 11⅝ 98	100	102	+0⅛	11.32
AIDC 11 89	75	99⅞	+0⅛	11.03
Austria 13⅝ 92	100	110	0	11.52
Bk America 12 87	290	102½	+0½	10.64
Bk Nova Scotia 13⅝ 87	100	103¼	+0⅛	11.96
Bank of Tokyo 11⅞ 90	100	100	0	11.86
Bank of Tokyo 13⅝ 91	100	106⅞	+0⅛	11.89
Beneficial O/S 12 91	100	98⅛	0	12.42
Br Col Hydro 11½ 93	200	101½	+0¼	11.45
Br Col Hydro 12½ 14	200	101⅞	+0½	12.64
Br Col Hydro 12½ 13	250	101⅜	+0⅛	12.65
Britoil Fin 11⅞ 90	125	100¼	+0⅛	11.81
CCCE 12⅝ 95	75	101⅜	+0¼	12.28
Canada 10⅞ 88	500	100⅛	+0⅛	10.59
Casio Computer 5⅞ 89	80	112	+2½	2.79
Citicorp O/S 10 88	300	99	+0⅛	10.87
Citicorp O/S 10⅜ 90	100	93⅜	−0½	12.06
Citicorp O/S 11½ 88	100	98⅝	+0⅛	11.84
Citicorp 11⅜ 90	100	98½	−0⅛	12.09
Citicorp 11¾ 99	100	99⅞	0	11.77
Citicorp O/S 14 94	100	101⅛	−1⅛	13.71
CNCA 13⅛ 91	100	105½	+0⅛	11.93
Coastled Int 12¼ 88	125	102⅝	+0⅛	11.30
Comp Bancaire 13⅞ 90	75	106	+0⅛	12.25
Comsat 12⅛ 91	100	100¼	+4½	12.16
Creditanstalt 13⅛ 91	100	103⅞	+0⅛	12.17
Daiichi Kangyo 12⅛ 90	100	101⅛	+0⅛	11.98
Dart & Kraft 7⅜ 98	85	93⅞	+1	8.51
Denmark 11½ 93	100	100	0	11.49
Denmark 12 91	100	100⅛	0	11.80
Denmark 12⅛ 93	100	100⅛	0	12.12
Denmark 13 91	100	104⅞	0	12.00
Denmark 14 91	100	106⅛	+0⅛	12.52
Den Norske Cr 11¼ 91	50	92⅛	0	13.05
Den Norske Cr 11⅛ 91	50	96⅞	0	12.51
Digital Equip 11⅜ 89	150	101⅜	−0½	11.37
Dutch St Mines 11⅛ 91	150	98	−0⅛	11.83
EBCO Intl 12 91	50	96	0	12.92
Eksportfinans 11½ 90	100	98⅞	+0⅛	11.75
Eurofima 12½ 91	100	103	0	11.77
EEC 10⅜ 95	75	92⅛	+1⅛	12.07
EEC 11 87	350	100¼	+0⅛	10.81
EEC 11 95	75	96½	+0¼	11.57
EEC 12 93	100	101⅛	+0⅛	11.71
EEC 12 93	50	100	+1	11.99
Euro Inv Bk 11½ 90	200	99⅜	+0⅛	11.64
Euro Inv Bk 11⅝ 99	77	89	0	13.78
Euro Inv Bk 11⅝ 91	73	96½	+0⅛	12.47
Euro Inv Bk 11⅞ 93	150	100⅛	+0⅛	11.83
Euro Inv Bk 12½ 90	100	103⅛	+0¼	11.57
Euro Inv Bk 12⅞ 94	100	104⅞	0	11.86
EDC 11⅛ 89	150	100⅛	+0¼	11.07
Export & Import 13¼ 91	75	109½	−0⅛	11.07
Farm Cred Cpn 11⅝ 93	75	100⅛	+0⅛	11.58
Firstfed Mich 1 13¼ 89	125	103	+0¼	12.28
Florida Fed 12⅛ 89	100	103	+0½	11.41
G. E. Credit 96	600	26⅛	−0¼	12.29
General Elec 9⅛ 91	100	94⅛	+0⅛	10.94
Gen Elec Cred 11 91	200	99¼	−0⅛	11.16
Gen Elec Cred 11 94	200	100	0	10.99
Gen Motors Ac 11⅛ 90	100	101⅛	+0¼	11.07
Gen Motors Ac 12⅜ 86	200	100⅛	+0½	11.91
Gen Motors Ac 13 86	200	102	+0⅛	11.31
GZB 14 91	100	105⅜	+0¼	12.80
Giro Vienna 13¼ 91	75	102⅛	−0¼	12.84
GTE Finance 12 96	75	100⅜	+0⅛	11.85
Gulf Oil 10⅜ 94	100	93½	+0½	11.37
Gulf Oil 12¼ 87	100	102¼	+0¼	11.19
Gulf & Western 12⅛ 89	100	97⅞	0	12.79
Holl Air Fin 12⅛ 91	100	100½	+1⅛	12.10
IBM Credit 13⅞ 87	100	103⅜	−0½	12.61
IBM 12¼ 92	200	107⅞	−0⅛	10.68
IC Industries 11⅞ 98	75	97⅛	+0⅛	12.29
Ind Bk Japan 11½ 89	125	100⅜	+0¼	11.36
Ind Bk Japan 11⅞ 91	100	101½	+0⅛	11.53
Ind Bk Japan 13⅞ 91	125	110⅛	+0⅛	11.53
IADB 12⅛ 93	120	101¼	−0½	12.24
Int Bk Rc Dv 11⅜ 90	200	99	+0½	11.47
Int Bk Rec Dv 11⅜ 89	200	100⅛	0	11.28
Int Bk Rc Dev 12 93	200	101⅜	+0⅛	11.66
Int Paper 12 91	75	103⅛	+0½	11.25
Int Stand Elec 97	112	22⅛	+0⅛	13.09
Int Stand Elec 12 96	75	97⅜	+0⅛	12.36
III 12 89	100	101⅛	0	11.53
Itoh 7½ 89	50	0		
ITT 11½ 89	125	99⅞	+0⅛	11.59
Japan Airlines 12½ 94	70	106½	+0⅞	11.31
Japan Dev Bk 11⅞ 91	100	101⅛	−0⅛	11.88
Kyowa Fin HK 12⅞ 90	100	103	+0⅛	12.04
Lac Minerals 8 89	50	93⅜	0	9.85
Long Term Cred 10⅜ 90	100	96½	+0½	11.66
Long Term Cred 11 90	100	97⅞	−0⅛	11.75
Long Term Cred 11⅞ 89	100	100⅛	+0⅛	11.72
Long Term Cred 12 93	100	101⅛	+0⅛	11.66
Long Term Cred 12⅛ 90	85	104⅞	+0¼	11.26
Long Term Cred 15⅛ 89	125	107	0	13.07
Macy R. H. 11⅛ 91	100	100⅞	+0⅛	11.54
McDonalds Fin 11⅝ 94	75	99⅛	−0⅛	11.74
Metro Tokyo 12⅞ 94	50	106½	0	11.68
Minebea 6⅛ 89	100	106⅜	+4⅛	4.45
Mitsubishi 5⅜ 88	100	100	+2	5.74
Mitsubishi Cp 12½ 91	100	106½	+0¼	10.99
Mitsub Gas Ch 6⅞ 89	50	95	−1	8.32
Mitsui Eng 7⅜ 88	50	90⅛	−0¼	10.30
Mitsui Tst Fin 12 91	100	100	+0⅛	11.99
Montreal Urban 12 90	75	99⅛	−0⅛	12.16
Mgn Guaranty 12¼ 89	150	101½	−0¼	11.74
Mount Isa Fin 13⅜ 87	100	104⅛	+0⅛	11.67
Ned Gasunie 11¼ 90	75	99⅛	−0⅛	11.44
Ned Gasunie 11⅜ 91	75	98⅜	−0⅛	11.55
Newfoundland 13 91	75	104	+0¼	12.02
Nippon Crd Bk 11⅞ 90	100	99⅜	0	11.95
Nippon Crd Bk 13⅞ 89	100	106⅛	+0⅛	11.90
Nippon Mining 6⅛ 89	50	104	0	5.65
Nippon Tel Tel 11⅛ 90	100	102	+0⅛	10.83
Nippon Tel Tel 13³¹⁄₃₂ 94	150	108⅞	−0⅛	11.73
Nissho-Iwai 6½ 89	70	88⅞	+0½	9.95
Nomura 6⅞ 88	100	113⅛	+1⅛	2.53
Nordic Inv Bk 11 90	75	90⅛	0	13.53
Nordic Inv Bk 11¾ 90	75	100⅛	+0⅛	11.70
Norwest Oseas 12⅛ 91	50	93⅛	0	13.85
Nova Scotia 11⅜ 91	100	99⅜	+0¼	11.80
Oester Post 12⅛ 89	75	101⅞	+0¼	11.78
Ohbayashi-Gumi 7⅜ 89	50	117¼	−1⅛	3.21
Ontario Hydro 11⅜ 94	200	100⅛	+0⅛	11.56
Ontario Hydro 11⅜ 90	200	102½	+0⅛	11.11
Ontario 12½ 94	250	104½	+1	12.02
Pacific Gas & El 12 91	75	100⅝	+0⅛	11.83
Penney J. C. 11⅞ 90	100	100⅜	−0⅛	11.69
Penney J. C. 12⅛ 91	100	103⅛	+0⅛	12.01
Philips Petrol 14 89	200	105⅜	+0⅛	12.26
Post-Och Kred 12 90	75	98⅛	−0¼	12.29
Post-Och Kred 13½ 87	50	104	+0⅛	11.52
Prudential 10⅛ 93	150	97	0	10.66
Prudential Ins 12⅛ 87	150	103⅛	+0⅛	11.05
Quebec Prov 12⅛ 93	100	100⅛	−0⅛	12.33
Quebec Prov 12¼ 94	150	101½	+0¼	11.95
Quebec Prov 13 13	100	101⅞	−1½	13.16
RTZ 11⅝ 93	100	95⅞	+0⅛	12.40
Rockefeller 13⅞ 89	100	104⅛	0	11.87
RBC 11½ 89	100	99⅛	0	11.60
Royal Bk Scot 11½ 93	75	98⅛	0	12.18
Royal Bk Scot 11⅞ 93	75	97½	+0½	12.34
Rural Bk Aust 12 91	50	98½	+0⅛	12.35
Sanwa Intl Fin 12⅛ 90	80	102	−0⅛	11.63
Scot Natl Fin 14⅛ 96	50	106⅛	−0⅛	13.29
Sears O/S Fin 98	500	21⅛	−0⅛	12.18
Sears Roebuck 10½ 91	150	96⅛	−0⅛	11.34
Sears Roebuck 11⅜ 93	150	100⅝	0	11.49
Sears Roebuck 11⅝ 91	150	102⅛	0⅛	11.09
Sears Roebuck 11½ 88	125	101⅛	0	10.90
Sec Pacific 11⅜ 88	100	100⅛	0	11.65
Sec Pacific 11⅝ 89	75	98⅛	0	12.17
Sec Pacific 12 92	100	99	−0⅛	12.20
Seino Trans 6⅞ 89	50	94	0	8.62
Shearson/Amex 12⅛ 94	100	101⅛	+0¼	11.90
Standard Chart 11½ 94	200	99⅞	−0⅛	11.52
Statoil 12 88	100	102⅛	+0⅛	10.91
Statoil 13½ 89	100	107⅜	0	11.21
Sumitomo Fin 12⅛ 91	150	103	+0⅛	12.01
Swedish [illegible]	[illegible]	[illegible]	+0⅛	11.48
Swedish Export 11½ 89	100	99⅜	+0½	11.61
Taiyo Kobe 12 90	100	100⅛	+0⅛	11.96
Texaco 10½ 90	200	96	−0⅛	11.48
Texaco 10½ 93	200	95½	−0⅛	11.32
Texaco Capital 13½ 89	200	106⅛	−0⅛	11.60
Texas Instr 11⅞ 91	150	99⅜	−0⅛	11.94
Tokai Asia 12⅛ 91	100	100⅞	+0⅛	12.03
Tokyo Electric 6½ 89	70	92½	−1½	8.70
Tokyo Electric 13⅛ 89	100	108⅛	+0¼	10.96
Toronto-Dom 12⅝ 89	50	101⅞	+0⅛	11.99
UBS 12⅛ 91	100	102⅜	−0½	11.58
Veba 8 93	70	115⅛	−0⅛	5.78
Warner-Lambert 10⅛ 90	100	97⅞	+0⅛	10.81
West LB 11⅞ 90	100	98⅜	+0½	12.77
Weyerhaeuser 11½ 90	60	99	−0⅛	11.73
Yasuda Trust 12⅛ 89	100	101⅛	+0⅛	11.98

FLOATING RATE NOTES	Issued	Price	Chg. on week	C.cpn
Allied Irish ¼ 92	100	100⅛	0	11⅛
Allied Irish ⅛ 95	100	99½	0	9¹³⁄₁₆
Arab Bank Cpn ⅛ 96	100	99⅜	−0⅛	12⅛
Oster Lnbk ⅛ 99	100	99⅞	−0⅛	11¹¹⁄₁₆
BAII ¼ 91	50	98⅜	−0⅛	12
Banca Lavoro ⅛ 91	100	99⅞	−0⅛	10⁹⁄₁₆
Banca Naz DA ¼ 91	75	100⅛	0	12⅞
Banco Napoli ⅛ 95	100	100⅛	0	10⁹⁄₁₆
Banco di Roma ¼ 90	75	100¼	+0⅛	12⁵⁄₁₆
Banco Hispano ⅛ 95	100	99⅜	−0⅛	11⅜
BCCI ⅛ 90	60	99	0	9⅞
Bankers Tr NY ⅛ 96	200	100⅛	0	9⅞
Bank of Helsinki ⅛ 89	50	98⅛	0	11¹¹⁄₁₆
Bank of Greece ¼ 94	150	98	−0⅛	11¹¹⁄₁₆
Bank Montreal ⅛ 96	250	100⅛	0	10¼
Bank of New York ⅛ 96	75	99⅞	−0⅛	11⅛
Bqe Dev Econ ¼ 90	60	97	0	9⅞
Bqe l'Indosuez ⅛ 99	150	100⅞	0	12⅛
Bqe Nat Paris ¼ 88	400	101	−0⅛	12½
Bqe Nat Paris ⅛ 95	400	100⅛	0	12⅛
Barclays O/S ⅛ 04	350	100⅛	0	12⁵⁄₁₆
BBL ⅛ 99	100	100	−0⅛	11¹¹⁄₁₆
Belgium ⅛ 94 £	100	99⅛	0	9¼
Belgium ⅛ 94	400	100⅛	0	9⅛
BFG Finance ⅛ 96	100	99⅜	0	9⅜
Credit Commerce ⅛ 98	125	100⅞	0	12
CEPME ½ 89	145	99⅛	0	12⁵⁄₁₆
CEPME ⅛ 96 £	100	99⅜	−0⅛	10⅛
Citicorp O/S ¼ 91 £	100	99⅛	+0⅛	10
Caisse Nat Tel ⅛ 90	275	100⅛	0	11⁵⁄₁₆
Caisse Nat Tel ⅛ 91	250	100⅛	+0⅛	10⅛
Commerzbank ⅛ 89	100	99⅛	0	9¹¹⁄₁₆
Creditanstalt ⅛ 94	125	100¼	0	9
Creditanstalt ⅛ 96	150	100⅛	−0⅛	12⅝
Credit Commerce ¼ 96	250	100½	0	12⅛
Credit Foncier ⅛ 93	500	100⅛	0	12
Credit Lyonn ⅛ 96	300	101½	+1	9⅞
Credit Lyonnais ⅛ 96	250	100¼	0	12¼
Credit National ⅛ 95 £	100	99⅜	−0⅛	9⅞
Dai-Ichi Kngyo ⅛ 96	150	100⅛	+0⅛	10⅝
Dansk Olie ⅛ 89	100	100	0	9
Denmark ⅛ 98 £	100	100	0	10
Denmark ⅝ 90	500	100⅛	−0⅛	11⅜
Denmark ⅛ 04	500	100⅛	0	12⅛
Denmark ¼	800	100½	0	12⅛
Dresdner Bank ¼ 93	400	101⅛	−0⅛	11½
Dresdner Bank 0 89	350	99⅞	0	9¹⁵⁄₁₆
EAB Finance ¼ 93	75	100	0	9¹³⁄₁₆
Eldorado Nuke 0 98	100	100¼	−0⅛	12⅝
Elec de France ⅛ 99	400	100⅛	−0⅛	12⅛
ENEL ⅛ 93 £	100	99⅜	−0½	10¼
Equitable O/S ¼ 94	50	98½	0	9¼
Exterior Intl ⅛ 96	125	99⅛	−0¼	9⅜
Ferro del Stat ⅛ 99	250	100⅛	−0¼	12½
Fiat Finance ⅛ 94	100	99⅛	+0⅞	12
First Aust Bk ⅛ 92	50	99⅜	−0¼	12¹¹⁄₁₆
First Interstate ⅛ 95	150	99⅜	0	9⁷⁄₁₆
Fuji Bk ⅛ 96	200	100⅛	0	12⅞
Genfinance ⅛ 94	100	100¼	0	12⅞
GZB ⅛ 96	50	100¼	0	9¹¹⁄₁₆
Gotabanken ⅛ 94	50	99½	+0⅛	10⅛
GW O/S Fin ⅛ 94	100	98⅜	−0⅛	12
Grindlays ⅛ 94	100	100⅛	−0½	12½
Indonesia ⅛ 93	250	98⅞	0	12
INI Perpet ⅝ 00	150	100	+0⅛	11¹⁵⁄₁₆
Interfirst Tex ⅛ 89	100	96	−0⅛	9⅞
Int Bk Rec Dev ¹¹⁄₃₂ 89	250	98⅞	+0⅛	8³¹⁄₃₂
Ireland ⅛ 93 £	60	100	+0⅛	10⅛
Ireland ⅝ 94	300	99⅞	−0⅛	9⅛
Italian Intl ¼ 91	60	99⅜	0	13
Italy ⅛ 99	500	100⅛	+0⅛	12⅛
Kansallis-Osak ⅛ 92	100	100⅛	0	12½
Kleinwort Ben ¼ 96	100	100⅛	−0⅛	12⁵⁄₁₆
Kone Corp ¼ 94	50	98½	0	9⅞
Korea Exch Bk ¼ 93	50	99⅜	0	9⁹⁄₁₆
Lloyds Eurofin ¼ 92	100	100⅜	+0⅛	9¹⁵⁄₁₆
Lloyds Eurofin ¼ 93	200	100⅜	0	10¹⁵⁄₁₆
Lloyds Bank ⅛ 04	250	100	0	11½
Malaysia ¼ 93	850	100⅛	−0⅛	12⅞
Megal Fin ⅝ 94 CU	100	103½	+0½	9¹⁵⁄₁₆
Midland Intl ⅛ 89	125	100⅞	+0⅛	9⁹⁄₁₆
Midland Intl 0 91	150	101⅛	+0⅛	11
Midland Intl ⅛ 99	200	100⅛	−0⅛	12⅛
Mitsui Fin ⅛ 96	100	100⅛	−0⅛	12⁵⁄₁₆
Montreal Urban 0 91	150	100½	0	12⁵⁄₁₆
Morgan Grenfell ⅛ 94	50	99⅜	+0⅛	9
Morgan J P Intl ¼ 97	250	100⅞	0	9¹⁵⁄₁₆
Mtge Bk Denmark ¼ 93	150	100⅞	0	12¹¹⁄₁₆
Mtg Bk Dnmrk ⅝ 94 £	50	100	+0⅛	10⅛
Mtge Bk Denmark ⅛ 99	125	100	0	11⅞
Nat Bk Canada ¼ 91	50	100	0	9⁹⁄₁₆
Nat Bk Canada ⅛ 91	60	100	−0⅛	9⅛
Nat West Bank ⅛ 90	150	100⅜	+0⅛	9⁹⁄₁₆
Nat West Fin ⅛	365	100⅛	+0⅛	10⅛
Neste Oy ⅛ 94	100	100⅛	−0⅛	12⅛
Oko Bank ⅛ 92	50	99⅛	+0⅛	12⅛
Pirelli Fin ¼ 94	50	98	+0⅛	12½
Portugal ¼ 92	100	98⅜	+0⅛	12
Quebec Hydro ⅛ 94	200	100½	−0⅛	12⅞
Quensind Coal ⅛ 96	355	100⅞	+0⅛	10⅝
Quensind Coal ⅛ 85	46	100⅛	−0⅛	10⅝
Renfe ¼ 91	100	100½	−0⅛	12⅛
Saitama Intnl ⅛ 93	60	100¼	0	9⅞
Sanwa Intnl ¼ 92	150	100	−0⅛	12⅛
Sanwa Bk ⅛ 04	150	100⅛	0	12⅞
Scandivia Fin ⅛ 93	70	98½	+0⅛	9⅞
Scot Intnl Fin ⅛ 92	100	100¼	−0⅛	11¹¹⁄₁₆
SEAT ¼ 93	100	99⅛	−0⅛	9⁹⁄₁₆
Skopbank ⅛ 94	75	99½	+0⅛	9½
SNCF ¼ 93 £	75	100	−0½	10¹³⁄₁₆
Soc Generale ⅛ 91	125	100½	0	13⅛
Soc Generale ⅛ 94	250	100½	−0⅛	12⅝
Spain ⅛ 97	250	100¼	−0⅛	12⅛
Standard Chart ⅛ 91	100	100⅜	+0⅛	10⅛
Standard Chart ¼ 94	200	100⅛	+0⅛	9⅞
Sumitomo Tst ⅛ 94	100	100⅛	−0⅛	12⁷⁄₁₆
Sweden ¼ 03	1bn	100½	+0⅛	10⅛
Sweden ⅛ 24	500	100¼	+0⅛	11¹⁵⁄₁₆
Sweden ⅛	750	100⅞	+0⅛	9⅞
Taiyo Kobe F ⅛ 04	100	100¼	0	10⅝
Thailand ⅛ 00	85	100	0	12⁵⁄₁₆
Tokai Asia ⅛ 99	150	100⅛	+0⅛	9¹⁵⁄₁₆
Toyo Tst Asia ⅛ 99	100	100⅛	+⅛	9¹⁵⁄₁₆
TVO Power ⅛ 04	100	98⅛	+0½	9
Union Bank-Norw ⅛ 99	50	98⅛	+0⅛	12⁵⁄₁₆
Vizcaya Intnl ¼ 96	75	99⅞	0	10½
Wells Fargo ⅝ 96	50	99¼	+0⅛	8²¹⁄₃₂
Yokohama Asia ¼ 94	100	100¼	0	11⅛
Yorkshire Int ¼ 94 £	75	99⅝	+0⅛	10⅛

CONVERTIBLE BONDS	Issued	Price	Chg. on week	Prem.
Ajinomoto 3 99	120	98	+1	
BBC Brown Bov 4⅛ 95	57	89⅜	−0⅛	0.05
Comsat Intnl 7¼ 88	110	78⅞	+1⅛	42.78
Daiwa Secs 5½ 98	60	136⅞	−1⅛	3.70
Dev Bk Sing 5½ 98	70	70	−5	12.47
Elders 11⅛ 94	160	105½	−1⅛	78.92
Elektrowatt 5 98	52	86⅞	+3⅞	12.40
Fanuc 3⅜ 98	80	151⅛	+6⅛	1.41
Fujitsu 3 99	180	102¼	+7⅛	7.28
Intec Inc 3 99	50	80	−1⅛	2.32
Konishiroku 4 98	50	92⅜	+6⅞	−0.89
Man Hanover 11¼ 96	100	97	0	
Mitsubishi H 4⅛ 99	100	99⅞	+0¼	7.73
Moet-Hennessy 7 99	50	101⅛	+0⅛	4.96
Murata Mfg 3½ 99	100	112	+8⅛	−0.42
Murata Mfg 3½ 00	100	110½	+9⅜	0.93
Nipon Oil 3⅛ 99	50	83⅜	+3½	10.15
Ono Phrm 3¼ 98	60	127	+20⅞	19.73
Sekisui 3 99	50	85⅛	0	1.57
Soc Gen Surv 4½ 94	51	87	+2	139.63
Sumitomo Corp 7⅝ 99	70	96⅜	+3⅛	1.28
Texaco Capital 11⅞ 94	1bn	100⅝	+0⅛	47.44
Texaco Capital 11⅛ 94	500	98⅜	+0⅛	46.15
Usair Finance 7 88	50	106⅛	−0⅛	4.13
Yamanouchi 4 90	50	176⅞	+10⅛	0.69

YEN STRAIGHTS	Issued	Price	Chg. on week	Yield
Asian Dev Bank 7⅛ 94	15	100⅞	−0⅛	7.24
IADB 7⅞ 93	15	103⅞	+0⅛	7.26
New Zealand 7⅛ 90	15	101	−0⅛	6.91
World Bank 7 94	20	99½	+0⅛	7.07
World Bank 7⅜ 93	20	103⅛	+0⅛	7.13

LUXFR STRAIGHTS	Issued	Price	Chg. on week	Yield
E Coal & Steel 10⅛ 94	1bn	102⅛	+2⅛	9.99
Euro Invest Bk 10⅛ 94	1bn	103⅛	+0⅛	9.29
Int Bk Rc Dv 10⅛ 89	1bn	103⅜	+0⅛	9.12

GUILDER STRAIGHTS	Issued	Price	Chg. on week	Yield
ABN 8 89	200	104⅛	+0⅛	6.75
Aegon Insur 8⅛ 89	100	104⅞	0	7.02
Amro Bank 8 89	200	104	+0⅛	6.88
Amro Bank 8⅛ 88	100	105⅛	+0⅛	7.13
Bk Mees & Hope 8⅛ 89	100	105⅛	+0⅛	7.08
Beatrice Foods 8⅛ 89	100	100⅛	−0⅛	8.09
C C Rabo 8 89	150	104⅛	+0⅛	6.80
C C Rabo 9 88	100	106⅛	+0⅛	7.04
Denmark 8½ 91	100	105	+0⅛	7.47
Int Bk Rec Dv 8⅛ 89	150	104⅛	0	7.00
Int Stand Elec 8½ 89	100	105	+0⅛	7.04
Ned Midd Bank 8 88	100	103⅛	+0⅛	7.09
New Zealand 8⅛ 89	100	104⅞	+0⅛	7.00

CANADIAN DOLLAR STRAIGHTS	Issued	Price	Chg. on week	Yield
Br Col Prov 12 93	100	102⅛	+0⅛	11.55
Bqe l'Indosuez 14 91	75	105⅛	+0⅛	12.75
Br Col Munic 13½ 91	100	107⅛	+1	11.82
Br Col Tele 12⅛ 89	70	101	+1	12.09
Farm Cred Corp 12⅛ 90	75	104	+0⅛	11.23
Int Bk Rec Dev 12⅛ 90	75	105⅛	+0⅛	10.94
Montreal City 12⅛ 91	70	103⅛	+0⅛	11.71
Quebec Hydro 14 91	75	108⅛	+0⅛	11.99

ECU STRAIGHTS	Issued	Price	Chg. on week	Yield
Australia & NZ 10⅛ 91	60	104⅛	+0⅛	9.79
Oesterreich 10⅛ 93	100	105⅞	−0⅛	9.54
Cred National 11⅛ 91	50	107⅛	+0⅛	9.83
Denmark 10⅛ 91	50	105⅛	+0⅛	9.59
Ebco Intnl 10⅛ 89	55	106⅛	+0⅛	8.79
EEC 10½ 91	60	103⅛	+1⅛	9.76
EEC 11 93	50	106⅛	+0⅛	9.48
EEC 11⅛ 91	50	107	+0⅛	9.71
EEC 11⅛ 93	70	106⅛	−0⅛	10.11
Euro Coal & Steel 8 94	60	101⅛	+0⅛	10.13
Euro Invest Bk 10⅛ 89	60	105⅛	+0⅛	8.70
Euro Invest Bk 10⅛ 94	100	105⅛	+0⅛	9.62
Euro Invest Bk 11⅛ 92	75	107⅛	+0⅛	9.71
Euro Invest Bk 11⅛ 93	50	109⅛	+1⅛	9.46
Euro Invest Bk 11⅛ 96	50	109⅛	+1	10.29
Gen Finance 11 90	70	106⅛	+1	9.48
Gte Finance 10⅛ 92	60	107⅛	+1⅛	9.45
Int Bk Rec Dv 10⅛ 88	100	105⅛	+0⅛	8.75
Int Bk Rec Dv 11 93	50	107⅛	+0⅛	9.73
Italian Treas 11⅛ 90	60	105⅛	+0⅛	10.28
Megal Finance 11⅛ 94	100	103⅛	+0⅛	10.66
Nippon Cred Bk 11 91	50	104⅛	+0⅛	9.82
Nordic Inv Bk 8 94	50	105⅛	+0⅛	10.77
Post Och Kred 10⅛ 92	60	104⅛	+0⅛	10.08
Royal Bk Can 10½ 89	85	106⅛	+1	8.54
SNCI 10⅛ 94	60	104⅛	+0⅛	10.05
Swedish Export 11 89	58	104⅛	+0⅛	9.60
West LB 10⅛ 91	50	105⅛	+0⅛	9.57

AUSTRALIAN DOLLAR STRAIGHTS	Issued	Price	Chg. on week	Yield
AIDC 12⅛ 90	42	97½	−0⅛	12.81
Nat Aust Bk 12⅛ 89	40	97	−0⅛	13.42
PIBA 13⅛ 88	40	101⅞	0	12.93
PIBA 12⅛ 89	40	96⅞	−0⅛	13.36
State Bk NSW 12⅛ 89	40	98⅛	−0⅛	12.73

STERLING STRAIGHTS	Issued	Price	Chg. on week	Yield
Europarat 11⅛ 92	50	99⅛	−0⅛	11.52
Denmark 10⅛ 89	75	97⅛	−0⅛	11.58
EEC 11⅛ 94	50	99⅛	−0⅛	11.52
EEC 11⅛ 93	50	101	−0⅛	11.66
Euro Invest Bk 10⅛ 92	75	95⅛	−0⅛	11.54
FFI 10⅛ 93	50	97⅛	−0⅛	11.22
Finland 11⅛ 88	50	101⅛	−0⅛	11.22
IADB 11⅛ 91	60	99⅛	−0⅛	11.55
Int Bk Rec Dv 10⅛ 89	100	97⅛	−0⅛	11.44
Int Stand Elec 11⅛ 89	50	101⅛	−0⅛	10.76
Inv in Indust 10⅛ 91	60	95⅛	0	11.55
Inv in Indust 11½ 91	50	102⅛	−1	11.00
Ireland 11⅛ 94	50	96½	−1⅛	11.99
New Zealand 10⅛ 89	100	98⅛	−0⅛	11.59
SNCF 11⅛ 94	60	98	−0⅞	11.60
SNCF 11½ 89	30	100⅛	+0⅛	11.26

EQUITY WARRANTS	Expiry date	Price	Chg. on week	Prem.
BASF Overzee	29/2/88	89	0	110.20
Bayer Int DM	1/7/87	85	0	108.74
Bayer Int DM	28/2/89	74	0	108.81
Ciba-Geigy Int £	1/11/93	202½	+25	106.87
Com Fin Deut DM	31/5/87	140	0	64.53
C Itoh	20/1/87	42⅛	−0⅛	
C Itoh DM	4/5/89	15⅛	+3⅛	414.32
Credit Suisse	31/5/86	20	+0⅛	34.85
Degusse Int DM	2/5/93	138½	−7	134.26
Deutsche Bank DM	18/6/91	148	+6	121.66
Dresdner Fin DM	1/9/92	0		
Hoechst DM	10/10/93	60	0	119.71
ICI Finance	1/2/93	90	0	107.77
IC Industries	1/5/90	304	+24	
Intnl Pirelli	15/6/88	10⅛	−0⅛	221.36
Mineba Co	14/6/88	13	0	104.79
Mitsubishi Ch	20/2/89	24⅛	+4⅛	
Mitsubishi Cp	20/1/87	33⅛	+1⅛	
Mitsui	7/11/88	18⅛	+2⅛	825.92
Nippon Mining	10/12/87	18⅛	−2⅛	
Nisho Iwai	17/3/89	63½	−0⅛	
Nomura Sec	1/2/89	8⅛	+0⅛	900.14
Omron Tateisi	31/10/88	32⅛	+2⅛	963.76
Phillips Gloeil	31/3/89	15⅛	+3⅛	308.94
Prudential O/S	15/7/88	15	+0⅛	195.49
Renown	15/12/88	95	−10	820.49
Schering DM	24/10/89	7	0	396.35
Seagram Comp	12/3/89	140	0	107.88
Seino Trans	15/3/88	10⅛	+0⅛	99.34
Seiyu Stores	17/3/89	11⅛	+1⅛	402.66
Siemens Wstrn DM	20/3/87	54	0	
Sumitomo Cons	31/5/90	254⅛	+12⅛	103.52
Sumitomo Heavy	24/3/89	43⅛	+0⅛	
Swiss Bk Corp	24/2/89	11⅛	−1⅛	
Tokyo Electric	20/12/88	29⅛	+0⅛	118.85
Toray Ind	14/2/89	13⅛	+1⅛	340.52
Veba Intnl	6/3/87	17⅛	+0⅛	765.76
	18/12/93	54	+0⅛	125.85

BOND WARRANTS	Expiry date	Price	Chg. on week	Ex. yield
Aegon Ins 11⅛ 91	14/2/88	14⅛	−0⅛	8.37
CEPME 10 93	4/3/85	1	0	12.41
Commerzbk 11⅛ 89	17/7/88	68⅛	+5⅛	−0.10
Creditanstalt 14 91	31/7/88	62½	0	3.50
Denmark 11½ 93	15/12/88	28⅛	+0⅛	9.46
D Norsk Cr 11⅛ 91	1/2/88	23⅛	+1⅛	7.72
Dv Bk Sing 14⅛ 89	12/5/88	50⅛	−4⅛	1.64
Du Pont 13⅛ 88	25/8/88	45⅛	+0⅛	1.98
Eksportfinans 13⅛ 89	15/9/87	41⅛	−0⅛	2.85
G Elec Cred 11 94	17/12/89	42⅛	+2⅛	5.05
Gen Elec 12⅛ 91	7/8/87	48	−0⅛	4.92
H'sabid Fin 11⅛ 90	1/12/85	42	−0⅛	3.97
IBM Credit 13 87	1/8/85	43⅛	+0⅛	−4.09
Inv In Inds 10⅛ 91	1/12/88	65	−5	0.66
M Hanover 13⅛ 87	1/9/85	29	−5⅛	0.87
McDonalds F 11⅛ 88	6/1/89	29	−6	6.72
Morgan J.P. 10⅛ 90	16/6/87	16⅛	−2	8.44
Nordic Inv Bk 11 90	15/11/87	11⅛	+0⅛	10.54
Oester Lnbk 13⅛ 89	9/8/87	41⅛	−1⅛	2.76
Penney J.C. 10⅛ 90	15/10/87	13⅛	+1⅛	7.60
Post-O Kred 11⅛ 90	25/11/87	18⅛	+10⅛	7.71
Ryl B Scot 11⅛ 93	15/11/88	21⅛	+1⅛	5.87
Texaco 10⅛ 93	15/11/87	12⅛	+2	8.97
Tsmen-Bedt 13⅛ 91	29/8/86	36⅛	+1⅛	6.00
Weyerhaeuser 11 90	15/11/87	13⅛	+1⅛	8.73
Xerox 13⅛ 87	15/8/86	34	+6⅛	−0.81

STRAIGHT BONDS: Yield to redemption of the mid-price. Amount issued is expressed in millions of currency units except for yen bonds, where it is in billions.

FLOATING RATE NOTES: U.S. dollars unless indicated. Margin above six-month offered rate (‡ three-month; § above mean rate) for U.S. dollars. C.cpn = current coupon.

CONVERTIBLE BONDS: U.S. dollars unless indicated. Prem = percentage premium of the current effective price of buying shares via the bond over the most recent share price.

WARRANTS: Equity warrant prem = exercise premium over current share price. Bond warrant ex yld = exercise yield at current warrant price.

Closing prices on January 11

BANKING SUPERVISION

Soft centres hold up hard line regulation

DESPITE all the shocks that have buffeted the international banking industry in the last past few years, there have been remarkably few banking casualties. Is this thanks to good luck or good management?

Bankers and their supervisors are bound to argue in favour of the latter. Yet the fact is that international banking — probably the most global business there is—is remarkably lightly regulated: its biggest activities, foreign exchange and the Euromarkets, operate virtually free from control. And what regulation there is tends to be patchy: some international financial centres are tightly supervised, others are not. All of which should be worrying if you believe that banks need to be protected not just from a hostile world, but from their own competitive excesses.

Dr Richard Dale, the author of a new book (*) on international bank regulation, believes they should be. He thinks it is very hard for even the best-run banks to stand back from new or fast-growing markets at the risk of losing market share. The growing sophistication and interdependence of modern banking also increase both the dangers and the risk of contagion from bank failures.

Dr Dale is specially concerned about what he calls "regulatory arbitrage": the temptation for banks to set up shop — or channel business through branches — in the most leniently regulated financial centres. The classic instance of this, which he documents in detail, was Citibank's "rinky dink" foreign exchange dealings in the 1970s, which landed it in trouble with the authorities of several countries.

But Dr Dale, a London merchant banker, who spent a year at the Brookings Institution in Washington while researching his book, is not just out to clobber the big banks. This is one of the fullest and most cogently argued cases for better international bank regulation. He examines the regulatory state of play in all the big financial centres, and probes the causes of such celebrated collapses as Herstatt, Ambrosiano, Schroeder Muenchmeyer Hengst and Franklin National, all of which, he says, carry the ominous message that the present "ad hoc co-ordination of national support arrangements might not be sufficient to contain the threatened collapse of a major multinational bank."

As this conclusion implies, Dr Dale does not believe that the Basle Concordate (under which international bank supervisors try to ensure that multinational banks do not escape regulation) is sufficient because it does not enable "hard" financial centres to force "soft" centres out of business. True, Basle is leading to convergence of supervisory standards, while other measures like consolidated accounting make it harder for banks to channel questionable business through unreported foreign subsidiaries.

Whether or not the "formal legal framework" which Dr Dale thinks is the only remedy is a practical proposition, it is clear that international banking has evolved to the stage where it must be treated as a single market, rather than a collection of separate centres which vie with each other by touting regulatory, tax and accounting incentives.

* *The regularion of international banking. By Richard Dale. Woodhead-Faulkerner. 208 pages. £19.95.*

David Lascelles

FFr 3.7bn return to black for DGT

By Paul Betts and Guy de Jonquieres in Paris

THE FRENCH telecommunications authority (Direction Generale des Telecommunications — DGT) will later this week report net earnings of about FFr 3.7bn ($382m) for 1984 after losing nearly FFr 1bn in 1983.

The loss in 1983 was the first to be reported by DGT since separate accounts for telecommunicati(1s started being kept in France 25 years ago.

The return to profit reflects the exceptional 25 per cent rate increases granted last year by the Socialist Government. These accounted for FFr 1.8bn of last year's earnings. The balance was made up of productivity gains, increased volume and new products.

At the same time, provisions against foreign currency debts were lower. In 1983 these totalled about FFr 5bn while they are expected to amount to between FFr 2bn and FFr 3bn last year. About one third of DGT's FFr 115bn total debt is denominated in U.S. dollars.

Sales rose to FFr 72bn from FFr 61.2bn the year before.

But if the net figures DGT will announce this week show a return into the black, they do not take into account the new role the authority has assumed under the socialist administration of financing the French electronics industry.

Indeed, DGT for the first time last year financed the French electronics industry to the tune of FFr 3.4bn, of which about half involved support for the development of new products and the other half helped to plug the deficits and losses of the nationalised Bull, Thomson Telecommunications, and CGCT groups.

Moreover, DGT contributed FFr 2.1bn to the French Government budget. It made a first contribution of FFr 2bn to the government budget in 1983.

Thus if the state budget contribution and the financial support of the electronics industry are taken into account, DGT was again in the red last year with a loss of nearly FFr 2bn.

INTERNATIONAL APPOINTMENTS

Travelers president suddenly resigns

BY PAUL TAYLOR IN NEW YORK

MR ALVA WAY, president of Travelers Corporation, the third largest stockholder-owned multi-line insurance group in the U.S., has resigned citing "personal reasons." Mr Edward Budd, aged 51, chairman and chief executive of the Hartford, Connecticut-based insurance group, will assume the additional title of president.

Mr Way, aged 55, who quit as president of American Express in 1983 to take the number two job at Travelers, will remain a director of Travelers and act as a consultant to the group. Before joining American Express he had spent 28 years at General Electric, becoming senior vice-president in charge of finance in 1977.

The move stunned Wall Street and the industry. Mr Way had been the company's main spokesman and was generally viewed to hold a strong leadership position at Travelers. The company has managed to avoid some of the worst problems of the U.S. property/casualty industry in sharp contrast to many other major insurers.

Mobil prepares defence against unwelcome bids

By Andrew Baxter in New York

MOBIL, THE second biggest U.S. oil company, is to seek approval from shareholders for changes in its corporate bylaws which will make it more difficult for unwelcome suitors to win a takeover battle.

The move comes amid speculation on Wall Street that Mr T. Boone Pickens, the Texan bid specialist, may try to take control of Mobil or another big U.S. oil company following the "standstill" agreement he reached with Phillip Petrol—leum earlier this month after a three-week takeover attempt.

Mobil, which Mr Pickens has listed among a group of undervalued oil companies, will call a special meeting of shareholders on February 22 to recommend the changes, which are understood to include:

● Amending the company's certificate of incorporation to prevent "greenmail" (the purchase by a company of its own shares from a predator group at a price that is not offered to other shareholders);

● Approval by 80 per cent of the voting stock for unfriendly mergers. Changing or repealing this amendment would also require approval from 80 per cent of the stock;

Mobil stressed yesterday that its proxy document detailing the recommended changes, which has been filed with the U.S. Securitise and Exchange Commission, does not mention Mr Pickens.

KLM issues SwFr 200m undated bond

BY MAGGIE URRY

IN an innovative deal, KLM, the Dutch airline, is raising SwFr 200m through an undated bond issue. This is the first time a foreign borrower has made such an issue in Switzerland and the first perpetual issue made by a borrower in the international bond markets other than a country or a bank.

The money raised will only be repaid if KLM goes into liquidation. As such it can be viewed by KLM almost as equity capital. The proceeds will go towards the airline's heavy investment programme over the next five years.

The issue, which will go on public sale in Switzerland on January 21, is being arranged by Kredietbank (Suisse). A heavy demand for the bonds is expected.

KLM, which is 55.4 per cent owned by the Dutch government, is regarded as a good credit risk. The initial yield being offered on the bonds, at 6½ per cent, is higher than KLM would have had to pay for a 10-year bond issue on the Swiss franc foreign bond market, so KLM is paying up for the privilege of selling undated bonds.

Every 10 years the interest payment will be reset according to a formula based on other foreign bond yields in Switzerland, which at current levels would suggest a yield of around 5⅜ per cent. *At the end of* each 10-year period KLM can opt to redeem the issue, but investors do not have the right to ask for a redemption.

By issuing undated paper, KLM can avoid the costs of making a new issue in future to refinance bonds which mature.

● In another development in the Swiss bond market, Sweden is selling around SwFr 100m of bonds with an 18-month life by tender. Previously only the Swiss Government and the cantons have sold issues by tender. The yield has been set at 4¾ per cent and the issue size can be reduced or increased by 25 per cent. The tender is being organised by Swiss Bank Corporation.

New chief marks change of policy at Fairchild

BY LOUISE KEHOE IN SAN FRANCISCO

FAIRCHILD Camera and Instrument Corporation, the Californian Silicon Valley semiconductor company, is set to pare down its troubled operations and to adopt a less abrasive management style. This marks an attempt to return to sustained profitability, according to **Mr Donald Brooks**, its newly-named president and chief executive and a former executive of Texas Instruments, the largest U.S. semiconductor maker.

Mr Brooks joined Fairchild, a subsidiary of Schlumberger, the international oil services group, 20 months ago as manager of North American operations. In his new position he succeeds Mr Thomas Roberts, who was installed at Fairchild when Schlumberger acquired the company in 1979.

Mr Brooks' appointment marks a break with Schlumberger's previous policy of filling Fairchild management positions with its own executives. Mr Brooks is a 26-year veteran of Texas Instruments.

As senior vice-president and general manager of Texas Instruments' MOS (metal oxide semiconductor) operations, he was the driving force in that company's expansion of its CMOS (complementary metal oxide semiconductor) product line.

Mr Brooks' very willingness to talk publicly about Fairchild is in marked contrast with the style of his predecessor.

Mr Roberts maintained a low profile during his five years in Silicon Valley. His actions were, however, controversial. Fairchild lost many of its top managers during Mr Roberts' tenure, reportedly because of a clash with his rigid management style.

Swiss court to rule on Nova-Park meeting date

BY JOHN WICKS IN ZURICH

THE LEGAL battle over the future of Nova-Park, the Swiss-based hotel group, enters a new phase today, when a Zurich judge is expected to rule whether an early extraordinary general meeting must be held, as requested by a group of dissident shareholders.

The group, headed by Dr Artur Bezzola, Nova-Park's former managing director, and representing about one-third of the company's share capital, called on December 28 for the meeting to be held on January 15. The applicants will now ask the court to convene the meeting as soon as possible.

The Bezzola group, which includes several representatives of Middle Eastern Shareholders, wants the company to set up a supervisory board to oversee the activities of the directors.

The Nova-Park board has in the meantime invited shareholders to an annual general meeting—its first since December 1983—in Paris on January 28.

This is intended as an opportunity for the board to present the 1983 report, as well as details of the Nova-Park hotels in Paris and New York and a building project in Cairo.

Semiconductor downturn affects AMD results

BY OUR NEW YORK STAFF

THIRD-QUARTER net profits at Advanced Micro Devices, the California-based microprocessor manufacturer, have fallen sharply from the record levels of the previous three months, providing further evidence of the current downturn in the worldwide semiconductor industry.

Net income for the quarter ended December 31 was $29.3m or 50 cents a share, up from $20.2m or 35 cents a year ago but down from $42.1m or 72 cents in the second quarter.

Sales rose 54 per cent to $238.6m from $154.6m a year ago, but were down 7 per cent from $257.1m in the previous three months.

Nine-month net earnings were up from $40.5m or 70 cents a share in 1983 to $109.6m or $1.88, while sales jumped from $391.1m to $730m.

Mr Jerry Sanders, president and chief executive, said: "The just-completed quarter bore witness to the mercurial nature of demand in the worldwide semiconductor industry. Customers large and small dramatically curtailed orders, cancelled backlogs and re-negotiated pricing as reduced expectations, ballooning inventories, and shortened lead times marked an abrupt transition from shortages to surpluses.

Olson to quit Carnation

MR H EVERETT OLSON, 78-year-old chief executive officer of CARNATION, has announced his resignation in a move expected to produce a more aggressive marketing strategy at the Los Angeles food products group, writes **Andrew Baxter in New York.**

He will be succeeded by Mr Timm Crull, the 54-year-old president, who has for some time been considered Mr Olson's heir apparent. Mr Olson will resign as chief executive on February 1 but will continue as chairman until December 31.

Mr Olsen has decided to retire this year before the company's acquisition by Nestle, the Swiss foods group, for $3bn. "Now that the merger has been approved, I feel this is the most appropriate time for my retirement," he said.

UK COMPANY NEWS

Lack of sales growth at Multitone

THIS YEAR will see a pause in the sales growth of Multitone Electronics, which the directors expect to be temporary, and profits are unlikely to reach the £1.73m, before exceptional costs, achieved in the year ended March 31 1984.

The group makes specialised communications systems, including on-site and wide-area paging units. It has a broad range of further products in development, and expects to benefit from these in the next year and, to a greater extent, in subsequent years.

Directors believe that this will enable the group to return to previous patterns of growth, thereby justifying the continued high levels of investment in product development sales, marketing and new manufacturing technologies.

In the first half to September 30 1984 the group more or less maintained its turnover at *£9.33m, but suffered a setback* in the trading profit which fell from £827,000 to £422,000. Last time there were exceptional relocation costs of £365,000, all charged to the half year, and this brought down the profit before tax to £453,000—in the 1984 half year it is £383,000.

Growth in on-site business and a reduction in wide-area sales are likely to result in the turnover for the current year not differing materially from the £20.6m of the previous year. Profit margins have been adversely affected mainly by higher operating costs against the background of a pause in the turnover growth.

Order intake for on-site systems and equipment in the first half was well ahead of the comparable period, both at home and overseas; and in the wide-area sector further contracts have been obtained from British Telecom, as well as initial contracts for new systems being established in other European countries.

But in North America the order intake has been less than expected. Group sales of wide-area paging equipment this year, therefore, will be less than planned and lower than last year, although last year benefitted substantially from a large contract for the Home Office.

Prospects continue to be encouraging for further expansion of the world-wide market for paging systems. To share in this growth, a high level of product development is required so that a comprehensive range of paging systems can be supplied, the directors state. The company has virtually completed the expansion of its new design and engineering centre at Basingstoke.

After tax £85,000 (£166,000) the net profit for the half year comes to £298,000 (£287,000) for earnings of 2p (1.9p) per share. The interim dividend is lifted to 1.1p net (1.05p)—the final for the previous year was 1.6p.

BOARD MEETINGS

The following companies have notified dates of board meetings to the Stock Exchange. Such meetings are usually held for the purposes of considering dividends. Official indications are not available as to whether the dividends are interims or finals and the subdivisions shown below are based mainly on last year's timetable.

TODAY

Interims:—Ailsa Investment Trust, Control Securities, Cray Electronics.
Finals:—Blue Arrow, Body Shop International, Brint Investments, Fleming Claverhouse Investment Trust, London Scottish Finance, Warner Holidays.

FUTURE DATES

Interims:—

AGB Research	Jan 16
Access Satellite International	Jan 23
Biotechnology Investments	Jan 16
Elbief	Feb 14
Herrburger Brooks	Feb 4
Norbain Electronics	Jan 17
Saville Gordon (J.)	Jan 23

Finals:—

Brooks Tool Engineering	Jan 21
Kenning Motor	Jan 15
Lookers	Jan 23
Scottish American Investment	Feb 13

Two directors hold near 21% of European Ferries

COMPANIES controlled by Mr John Dick and Mr William Pauls, directors of European Ferries, have increased their holding in the ferry group from 12.6 per cent to 20.9 per cent as a result of implementation of changes in its capital structure made last year.

The holdings of Mr Dick and Mr Pauls were a point of controversy in a bitter row which erupted among shareholders when European Ferries put forward proposals enabling it to limit the cost of shareholders' perks—cheap fares on cross-channel ferries.

Small shareholders won changes in the proposals, but the capital restructure eventually went through. The dissidents feared that the company's plans would allow Mr Dick and Mr Pauls to acquire a large share of the company's equity.

Under a 1982 agreement and last year's Scheme of Arrangement, 11.54m shares are being allotted to Mr Dick and Mr Pauls, bringing their total holding to 46.54m.

The two directors have undertaken not to launch or encourage a bid for European Ferries for three years without the board's agreement, or to acquire more than 29.9 per cent of the company.

Circaprint makes £0.65m and keeps up momentum

SECOND-HALF profits of £334,000 have given Circaprint Holdings a total of £650,000 for the year ended August 31, 1984, compared with £423,000. The first half included £150,000 from an insurance claim following a fire at the Aylesford factory.

The year's turnover advanced by £2.25m to £6.26m. In the current term this increase has been maintained although trading margins are under pressure, the directors report. The group makes conventional and specific printed circuit boards and was introduced to the USM a year ago.

Dividend for the year is the promised 0.7p net per share. Earnings are shown at 12.3p (7.3p).

The group is continuing to improve its services to British Telecom, STC, GEC, Plessey and other major customers by developing new manufacturing techniques.

There are extraordinary *credits of £433,000 (£248,000)*. This year's comprises the surplus over book values of plant replaced at the Aylesford factory, less the costs of the USM introduction. Surplus on revaluation of long leasehold land and buildings acquired in December 1983 at Exmouth amounted to £150,000.

Bristol Stadium setback

Profits before tax of the Bristol Stadium fell from £160,489 to £71,804 for the first six months to June 30, 1984. No dividend is proposed but the directors will reconsider when the full results are available—1p net was paid for the previous year.

Turnover (receipts) declined from £765,517 to £664,691 and after deducting expenditure, including depreciation, of £672,747 (£688,705) and general betting duty of £11,589 (£11,513) the company incurred a net operating loss of £19,915, compared with profits of £65,299 previously.

Tax took £33,209 (£33,454) to leave net profits at £38,595 (£77,035), equal to earnings per 5p share of 0.012p (0.023p).

Britannic affected by loss of LAPR

Britannic Assurance reports that its new life business last year was affected by the end of Life Assurance Premium Relief in last year's Budget.

New annual premiums in the Ordinary branch dropped 11 per cent from £7.12m to £6.4m, with life annual premiums declining more than 18 per cent from £6.64m to £5.42m. New annual premiums on self-employed pensions more than doubled from £480,000 to £980,000.

New annual premiums in the Industrial branch also fell as a result of the ending of LAPR dropping 6 per cent from £24.56m to £23.02m.

Single premium business last year more than doubled from £1.51m to £3.11m.

Milk quotas hit Oldacre but comparable year seen

REDUCED SALES to dairy farmers following the imposition of milk quotas last April are reflected in results of Oldacre Holdings for the half year ended September 30, 1984. However, conditions are improving.

The group, which is based in Cheltenham and obtained an introduction to the stock market in September, is active in the area of agricultural services and distribution. Its sales in the half year came to £40.8m (£41.93m) and profit before tax fell from £949,000 to £802,000.

However, improving trading conditions are such that the results for the full year are expected to be comparable with 1983-84, when turnover was £88.7m and pre-tax profit £2.51m.

The half year's profit was struck after interest charges up from £48,000 to £103,000, the increase mainly being the result of higher capital expenditure associated with the new feed mill at Cullompton (Devon), which formally opened in August.

Tax takes £360,000 (£332,000) to leave the net profit at £442,000 (£617,000), or 3.14p (4.38p) per share. The directors confirm their intention of paying a dividend total of 4p, against 3.5p, and have declared an interim of 1.5p. The final will be paid in October.

COMPANY NEWS IN BRIEF

Net asset value per 25p share of Moorgate Investment Trust improved by 45.5p to 290.3p over the year to November 30 1984. Net profits for the half-year to end-November rose by £18,000 to £241,000. The interim dividend is 4p (3.25p) net. The final is expected to be at least maintained (6.75p).

* * *

At the end of 1984 net asset value per 10p capital share at M & G Dual Trust stood at 950.28p compared with 763.09p a year earlier.

The final dividend is increased from 13.25p to 13.9p net, making *25.5p (23.25p) for the year.*

After a tax charge of £631,000 (£571,000), net revenue emerged at £1.47m against £1.33m, leaving earnings per 10p income share at 25.59p (23.17p).

* * *

Net asset value of the Ashdown Investment Trust increased to 468.4p per 25p share as at November 30 1984, against 426p a year earlier.

For the 12 months to end November, earnings per share climbed from 6.83p to 8.63p. The final dividend is 1p higher at 5.9p making a net total of 8.2p (7p). A two-for-one scrip issue is also proposed.

Total revenue amounted to £1.69m (£1.39m) of which £1.52m (£1.21m) was investment income. Expenses and interest took £231,867 (£208,606), tax was £508,256 (£432,939) and the preference dividend accounted for £8,575 (same) leaving revenue available up from £743,127 to £938,120.

* * *

Howard and Wyndham says that no dividend will be paid *this month on the 9 per cent* convertible cumulative redeemable preference shares 1999 of 20p each and the 9 per cent special convertible cumulative redeemable preference 1999 of 20p each.

* * *

Samuel Montague and Co has placed 2.7m Amari ordinary shares through brokers, which reduces its holding from 4,085,007 to 1,385,007 shares, equal to 4.77 per cent of Amari's capital.

* * *

Trading profits at D. C. Thomson and Co., Dundee-based printer and publisher, improved from £7.83m to £10.02m in the year to March 31, 1984. Invest*ment income of this unquoted* company rose from £4.21m to £4.67m, and income after tax increased from £6.85m to £8.97m.

A net dividend of 35p per £1 share is being paid, compared with 32.25p in the previous year.

F.T. Share Information

The following securities have been added to the Share Information Service:

Baldwin (H. J.) (Section: Buildings)
Cullinet Software Inc (Americans)
Dun & Bradstreet Corpn (Americans)
Gabicci (Drapery & Stores)
Health Care Services (Industrials)
Highland Participants (Oil & Gas)
Home Federal Savings & Ln Assc (Americans)
Martin Marietta Corporation (Americans)
Scovill Inc (Americans)
Signal Companies Inc (Americans)
Tyzack (W. A.) (Engineering)

FINANCIAL TIMES STOCK INDICES

	Jan. 11	Jan. 10	Jan. 9	Jan. 8	Jan. 7	Jan. 4	1984/85 High	1984/85 Low	Since Compilatn High	Since Compilatn Low
Government Secs.	80.95	81.55	81.83	81.49	80.62	81.13	83.77	75.72	127.4	49.18
Fixed Interest	85.17	86.36	85.32	85.22	86.07	86.04	87.48	80.43	150.4	50.53
Ordinary	968.5	983.4	983.1	971.2	955.7	941.0	983.1	755.3	983.1	49.4
Gold Mines	474.2	462.7	451.3	455.2	445.3	459.0	711.7	445.3	734.7	43.5
FT-Act.All.Share	602.05	606.91	603.13	596.31	590.93	585.46	606.91	484.84	606.91	61.92
FT-SE100	1248.6	1261.0	1259.2	1243.5	1229.0	1214.6	1261.0	986.9	1261.0	986.9

LADBROKE INDEX
Based on FT Index
967-971 (−12)
Tel: 01-427 4411

RECENT ISSUES

EQUITIES

Issue price	Amount paid up	Latest Renunc. date	1984/85 High	1984/85 Low	Stock	Closing price	+ or −	Net Div.	Times covered	Gross Yield	P.E. Ratio
§160	F.P.	18/1	225	176	Candover Inv.	207	−7	‡1.4	—	1.0	—
‖	F.P.	—	95	88	GBC Capital	95	+2½	Q2.4	—	1.5	—
‖	F.P.	—	24	21	Do. Warrants	22	—	—	—	—	—
¶¶	F.P.	—	88	81	Hawley Group $0.01	88	+1	1.86	3.8	3.0	14.6
**	F.P.	1/2	25	21	Jap.AssetsTstWar'nts	22	−½	—	—	—	—
§62	F.P.	1/2	67	57	Kingsley&Forester20p	61½	.....	bg3.84	1.9	7.1	9.4
§55	F.P.	6/2	55½	53	✱Optometrics(U.S.A.)	53½	.....	Q8c	—	3.8	—
§130	F.P.	25/1	160	150	✱Penny & Giles Intl.	152	+2	bg1.82	2.6	1.7	19.6
92	F.P.	24/1	95	90	ProcessSystems$0.025	90	−1	Q0.25c	0.2	0.3	—
152	F.P.	11/1	210	166	Wardle Storeys 10p	210	+6	u6.0	2.7	3.4	12.8
20	F.P.	21/1	25½	20¼	Williams (Rex) Leis.5p	21	+½	u0.91	1.4	6.9	14.5

FIXED INTEREST STOCKS

Issue price £	Amount paid up	Latest Renunc. date	1984/85 High	1984/85 Low	Stock	Closing price	+ or −
91.574	£30	10/4	34¼	29⅞	African Dev. Bank 11¼% Ln. 2010	31⅛	−¼
£100	F.P.	11/1	102½	100	Comm Bk of Wales 15¼% SubUns Ln 95-97	102	.....
‖	Nil	22/2	11pm	8pm	F. & C. Eurotrust 5¼% Cnv. Ln. '95	11pm	.....
‖100	F.P.	22/2	118pm	112pm	FII 7.7% Cnv. Cum. Red. Prf. £1	112pm	.....
§101	£51	15/2	54	52	Felixstowe Dock Prf. Units †	52	.....
§99.894	F.P.	18/1	99¾	97½	Gartmore Amer. 11⅛% Deb. 2014	97½	−2¼
¶¶	F.P.	1/5	98	94	Grovebell 7.5% Cnv. Red. Cum. Pref.	96	.....
85.81	£30	19/6	30⅛	28¾	Int.-Am. Dev. Bk. 9¾ Ln. 2015	29⅛	−⅜
99.161	£30	17/1	35$\frac{3}{16}$	28⅝	Intl. Bk. for Recon. & Dev. 11½% Ln. 2005	32	−⅜
‖	F.P.	1/2	109	103	Jap. Assets Tst. 4½% Uns. Cnv. Ln. 1994	108	.....
‖	F.P.	1/2	140p	130p	Johnson Matthey 8% Cnv. Cum. Prf.	137p	−1
‖	F.P.	18/1	92	83	Lifecare Intl. 6½% Cv. Cum. Red. Prf. 1998	85	+1
§99.199	£25	15/3	29⅞	24½	Lon. Shop Prop. 11⅝% 1st Mort. Deb. 2016	28	−⅛
§98.013	F.P.	18/1	99	97¼	Lowland Inv. 11¼% Deb. 2010	98½	.....
‖	F.P.	14/2	120	105	McCarthy & Stone 7% Cv. Ln. 99/04	118	−1
—	F.P.	—	100$\frac{1}{16}$	99$\frac{1}{16}$	Nationwide Bldg. Soc. 10¼% Bds. 9/12/85	99¼	−⅛
—	F.P.	—	100⅛	99⅛	Do. 10⅝% 13/12/85	99⅛	−$\frac{1}{16}$
¶¶	F.P.	—	60p	58p	Simon Engn. 4% Cm. Rd. Prf. '84-86	58p	.....
¶¶	F.P.	—	64p	63p	Do. 5.4% Cm. Rd. Prf.	64p	.....
¶¶	F.P.	—	76p	76p	Do. 6.35% Cm. Rd. Prf. '81-86	76p	.....
¶¶	F.P.	—	86p	86p	Do. 7.75% Cm. Pd. Prf. '82-87	88p	.....
1,976	£20	27/3	24⅞	18½	Sweden 11% Ln. 2012	28	−¼
¶¶	F.P.	—	120p	112p	✱Tech. for Bus. 7% Cum. Cv. Rd. Pf.	117p	−1
¶¶	F.P.	8/1	156	125	Tomkins (F. H.) 9¼% Cnv. Ln. '94	154	−2

"RIGHTS" OFFERS

Issue price	Amount paid up	Latest Renunc. date	1984/85 High	1984/85 Low	Stock	Closing price	+ or −
64	F.P.	8/2	73	69	Bairstow Eves 5p	70	−1
175	F.P.	8/2	215	213	Birmingham Mint	215	.....
60	Nil	15/2	52pm	45pm	Burgess Prods.	52pm	.....
485	Nil	8/2	155pm	135pm	Carlton Comms.	150pm	.....
86	F.P.	4/2	116	99	Carr's Milling	116	+2
60	Nil	13/2	14pm	5pm	Dura Mill 2½p	14pm	.....
80	F.P.	1/2	106	93	LCP Hldgs.	106	+5
185	F.P.	18/1	232	218	Marshalls Halifax	232	+4
24	F.P.	13/2	26	24½	✱Morris (W.) Fine Arts 20p	25	−1
115	F.P.	4/2	157	143	Notts. Brick	157	+5
255	Nil	8/2	65pm	37pm	Pilkington Bros. £1	37pm	−3
32	F.P.	—	35	32	✱Steaua Romana R/V	32	.....
5	F.P.	30/1	8½pm	6¼pm	Tranwood 5p	8pm	+¼
388cts	Nil	—	67½pm	60pm	Westpac $A1	65pm	+2

Renunciation date usually last day for dealing free of stamp duty. *b* Figures based on prospectus estimates. *d* Dividend rate paid or payable on part of capital; cover based on dividend on full capital. *g* Assumed dividend and yield. *u* Forecast dividend cover based on previous year's earnings. F Dividend and yield based on prospectus or other official estimates for 1985. H Dividend and yield based on prospectus or other official estimates for 1984. Q Gross. *p* Pence unless otherwise indicated. ¶ Issued by tender. ‖ Offered holders of ordinary shares as a "rights." ** Issued by way of capitalisation. §§ Reintroduced. ¶¶ Issued in connection with reorganisation merger or takeover. ▓ Allotment letters or fully-paid. ‖‖ Introduction. ✱ Unlisted Securities Market. § Placing price. T Figures assumed. †† Official London Listing. ‡‡ Dealt in under Rule 535(3). † Comprising 100 Prf. and one Ptg. share.

PENDING DIVIDENDS

Dates when some of the more important company dividend statements may be expected in the next few weeks are given in the following table. The dates shown are those of last year's announcements except where the forthcoming board meetings (indicated thus*) have been officially notified. Dividends to be declared will not necessarily be at the amounts in the column headed "Announcement last year."

	Date	Announcement last year
Allied Colloids	Jan 18	Interim 1.0
*Berisford (S. & W.)	Jan 17	Final 6.5
Brown (J.)	Jan 31	Interim nil
*Centrovincial Estates	Jan 16	Interim 3.0
Daejan	Jan 26	Interim 2.875
Dalgety	Feb 13	Interim 11.0
*Davy Corpn	Jan 17	Interim 1.1
*Dixons	Jan 17	Interim 1.6
*Dowty	Jan 17	Interim 1.1
First Nat. Fin.	Jan 25	Final nil
*Fitch Lovell	Jan 24	Interim 2.5
Fleet Hldgs.	Feb 14	Interim 1.75
Gold Fields SA	Feb 7	Interim 35cts
*Guinness (A.)	Jan 15	Final 4.1
Hogg Robinson	Jan 10	Interim 3.3
*ICI	Feb 28	Sec int 14.0
*Imperial Group	Feb 14	Final 5.05
Kenning Motor	Jan 12	Final 4.0
Lonrho	Feb 9	Final due
*MFI Furniture	Jan 17	Interim 1.7
*Mercantile House	Jan 22	Interim 3.78
Notts Manuf.	Feb 13	Final 4.85
*Racal Elecs	Jan 23	Interim 0.73
*Rang Org	Jan 29	Final 5.0
Securicor	Feb 15	Final 1.0
Smith (W. H.)	Feb 15	Interim 0.428
Stock Conversion	Jan 30	Interim 2.0
Trusthouse Forte	Jan 19	Final 6.25
*Union Discount	Jan 30	Final 23
Vantona Viyella	Feb 7	Final 5.0
Wagon Finance	Feb 10	Final 1.875

* Board meeting intimated. † Rights issue since made. ‡ Tax free. § Scrip issue since made. ¶ Forecast.

BIDS AND DEALS IN BRIEF

C. H. Bailey has sold 2,825,083 ordinary shares in Bristol Channel Ship Repairers and now holds 57,236,209 (71.67 per cent) of the company's equity.

* * *

Time Products has acquired from the Comet Group the House of Lipkin, the principal UK manufacturer of rings, jewellery and pearls.

* * *

Caparo Properties has sold the assets and goodwill of its warehousing business based at Stanstead Abbotts, Hertfordshire, which traded as E. Austin (Storage and Distribution) to B. & H. (Warehousing and Distribution), a *subsidiary of* Eleco Holdings.

* * *

Hoechst has bought Arthur H. Cox and Co, a UK pharmaceutical company based in Barnstaple, for an undisclosed sum, to take effect within the next two weeks. Cox, with a 1984 turnover of £7.7m, will continue to trade under its own name and in the British market only.

* * *

Berkeley Exploration and Production has agreed with Page Petroleum, a Canadian company, to acquire the outstanding share capital of its subsidiary Page Petroleum (UK) for £1m.

Consideration is to be satisfied by the issue of 770,000 ordinary Berkeley shares. These will be issued to Page and subsequently sold to Guinness Peat Group which will be the beneficial owner of 7 per cent of the ordinary of Berkeley.

* * *

Turriff Corporation has extended its moves to diversify away from its construction activities with the purchase of a 49 per cent stake in Engineering Support Services, (ESS), a Reading-based producer of technical and computer user manuals, for £625,000 cash.

The deal allows Turriff the option to buy the remainder in three years' time at a price related to profits. Pre-tax earnings for ESS in the year to July 31 1984 were £430,000, with net assets standing then at some £500,000.

* * *

The Prudential Corporation Group is interested in 810,875 ordinary shares in Security Centres Holdings. This represents a holding of 5.32 per cent.

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£12m orders for Chivers

W. E. CHIVERS & SONS has £12m orders spread between its regional offices at Reading (£8.3m) and Romsey (£3.7m). Among contracts in the Reading area are student accommodation block at Royal Holloway College, Egham (£1.8m), a unit at Police Staff College, Bramshill (£1.7m), office and residential units, Egham (£400,000), and Britwell's old people's home, Slough (£750,000). In the Romsey area contracts include a DIY Store at Bournemouth (£1m), 72 homes, Mercer Way, Romsey (£1.7m), and work at HMS Sultan, Gosport (£565,000). Construction and fitting-out of two International Stores is in hand as Chepstow (£800,000) for W. E. Chivers Developments and at Towcester (£844,500) for Manmid of Bournemouth.

★

R. M. DOUGLAS CONSTRUCTION has won conracts totalling £12.1m. Included is a warehouse and factory for Protea Estates in Buckingham worth almost £3m; phase one of a general hospital at Hartlepool (£2.4m); a warehouse on the Hoo Farm industrial estate at Kidderminster for Crossforge (£1.4m); hi-tech building for Pro-Bel in Reading (£0.6m); and a factory fitting-out for Chronar at Brigend (£0.5m).

★

PLUMB CONTRACTS, Coventry, has contracts worth over £6m. These include fitting out the public areas of the Bustan Palace Hotel in Oman worth over £2m; a £1.5m re-furbishment for Burtons of Oxford Street store; a £750,000 contract for the Co-op at Reading; and a contract to develop 14 luxury suites at The Park Lane Hotel in London.

★

TILBURY GROUP begins the new year with contracts worth £2m. Five contracts from British Rail total £900,000. These include demolition and reconstruction of two bridges on the East Coast main line near St Neots; a similar job at Wrabness on the Liverpool Street to Harwich line; reconstruction of platforms and awning at Harwich Town station; and demolition of a water tank plus drainage and support steelwork for a new tank at Shoeburyness. A £576,000 job for the Borough of Torbay involves construction of a reinforced concrete balancing tank and associated pipework at Paignton. Construction of foundations for a modified premix plant at Whatley Quarry, Frome, is worth £211,000. Other work includes £95,000 sewer renewal at Sileby for the Charnwood Borough Council, and a £63,000 road bridge reconstruction job at Wakefield. A garage and car park at St Albans for London County Bus Services involving alterations to existing office accommodation is worth £86,000.

★

RUSH & TOMPKINS has started two road contracts for Northamptonshire County Council worth £1.35m. Largest is the A509 Wollaston Bypass between Strixton Turn and Great Doddington Crossroads on the main route between Wellingborough and Milton Keynes. The £721,000 contract is expected to be completed in April. A £628,000 contract is to reconstruct part of the A45 eastbound carriageway between Northampton and junction 16 of the M1.

★

SINDALL CONSTRUCTION, major operating subsidiary within the Sindall Group, has been awarded contracts to the value of £4.8m. Two contracts are for the East Anglian Regional Health Authority. Sindall is already on site at the Great Yarmouth Hospital where work is commencing on Phase IIa. The other hospital contract is for psychiatric wards at the Queen Elizabeth Hospital, Kings Lynn. Two projects will be managed by Sindalls London office in Holland Park Avenue. One is an extension to the Royal College of Art at Kensington Gore and the other a development on the Cambridge Science Park.

★

CRITTALL WINDOWS, a member of the Norcros Group, has an order for steel windows worth £311,000 for the new Gaynes Hall CML Prison in Cambridgeshire. Bovis Construction is the contractor.

★

STANLEY MILLER ARABIA has won a £2m building contract for housing and office facilities in Saudi Arabia. The contract to build an Ambassador's residence, Consulate General housing and office in Jeddah for the British Embassy was awarded by HRH Prince Abdullah Bin Khalid Al Saud. Work comprises nine residential villas for Embassy officials and a two-storey 1,000 sq metre office block for use by Consulate General and other administrative staff. Recreational facilities within the compound include a swimming pool, tennis and squash courts and barbecue facilities. Work has started for completion by August.

★

FAIRCLOUGH BUILDING has secured a contract worth nearly £900,000 to develop the old YMCA building in Leeds city centre. This entails demolishing a four-storey building in Albion Place Street behind the existing traditional facades—which are being retained—and constructing new accommodation for 25,000 sq ft of retail space for completion in the autumn. The contract was awarded by Pensbury Developments, a wholly-owned subsidiary of Stewart Nairn.

BUILDING CONTRACTS

British companies busy in Hong Kong project

BY JOAN GRAY, CONSTRUCTION CORRESPONDENT

KIER INTERNATIONAL has won a £16m contract to construct two water pumping stations at Plover Cove in Hong Kong for the Water Supplies Department of the Hong Kong Government.

Construction will be carried out in joint venture with Gammon (Hong Kong), the local contractor jointly owned by Trafalgar House and Jardine Matheson, which has been Kier's partner on previous contracts in Hong Kong.

The latest Plover Cove contract follows a £54m contract at Castle Peak power station in Hong Kong which Kier International, again in joint venture with Gammon, is now completing for China Light and Power.

"The Plover Cove contract was competitively fought for and we weren't the lowest bidder," said Kier International's marketing manager, Mr Mike Morgan.

"We won the contract on our technical presentation and because the job we are just finishing at Castle Peak is similar, as both involve technically difficult use of concrete under water."

"So we had people on the ground who were already experienced and a team which could be transferred to the new job."

Kier International is now negotiating for a further—approximately £4m—contract extending the works at Castle Peak, which would be completed at the end of the year. Work is already starting on the Plover Cove pumping stations.

The Plover Cove contract brings the value of overseas contracts won by Kier International over the last months up to a total of £30m.

Other recent contracts include £1.7m to build two commercial blocks in Jamaica; £1m to build an apartment block in Trinidad; £800,000 to build the New Makhaleng Bridge in Lesotho; and a £550,000 factory and road improvement scheme in Malawi.

APPOINTMENTS

Changes at Mansfield Brewery

MANSFIELD BREWERY GROUP is to merge its managed house operations. Mansfield Inns, with its tenanted estate, as part of organisational changes to take effect on April 1. The new company, Mansfield Inns, is headed by managing director **Mr Derek Mapp**. The move includes transfer of all trading properties from Mansfield Brewery to Mansfield Inns. Tenanted trade director, **Mr Mark Phillips**, becomes company secretary and company solicitor, while the present company secretary, **Mr Richard Chadburn**, joins Mansfield Brewery Trading as free trade director, combining this responsibility with that of group personnel director, for which he carries the authority of an executive member of Mansfield Brewery, the group's holding company. A new divisional director appointment has been made, with the internal promotion of **Mr Richard Meadows**, to head brewer. Further group changes include the provision of a group "think tank." Full-time executive, Mandora vice-chairman **Mr Tony Morton**, is appointed group planning director, to be part of a team of four, chaired by the group managing director, **Mr John Hings**.

★

Mr J. S. Kennedy has joined DEVITT (NORTH AMERICA) part of the Devitt Group, as an assistant director.

★

ASSOCIATED BRITISH PORTS HOLDINGS has appointed **Mr C. W. Orange** as finance director of its principal operating subsidiary, Associated British Ports. Since qualifying as a chartered accountant he has held senior finance appointments with UBM Group where he was group financial controller, and with AAH Holdings Group of which he was finance director. Mr Orange will succeed **Mr A. J. Tomsett**. The latter continues as finance director of Associated British Ports Holdings, which is expanding its range of activities following privatisation. Mr Tomsett will also continue as a director of a number of the group's subsidiaries.

★

Following the acquisition of The East Lancashire Paper Group by BRITISH SYPHON INDUSTRIES, **Mr Brian Cox**, **Mr J. Turner**, **Mr John C. Seddon**, **Mr J. A. Cropper** and **Mr H. M. B. Thorp** have resigned from the board of East Lancs and all its subsidiaries by mutual agreement. Mr Cox was previously non-executive chairman of East Lancs and **Mr Seddon** was previously managing director, while the remainder were non-executive directors. **Mr Bryan Morrall**, chairman of British Syphon, has been appointed a director of East Lancs. **Mr Dennis Holt** retains his position as financial director. Mr Seddon will not now be apopinted a non-executive director of British Syphon.

★

Mr P. Parker, has been appointed a director of GRANTRIGHT SPECIALIST SERVICES.

★

Mr M. C. Holford has been appointed to the board of OLDHAM BATTERIES as managing director. **Mr A. J. Brogan** has been appointed deputy managing director. Oldham Batteries is a Hawker Siddeley Group company.

★

KIRKLAND - WHITTAKER (STERLING BROKERS) has appointed **Mr Anthony B. Cooper** as a director.

★

Mr Howard T. Stanton has been appointed finance director of CHARTERHOUSE J. ROTHSCHILD.

★

Four new directors have been appointed to the board of LANSING BAGNALL. They are: **Mr Tony Mesquita**, divisional director UK sales; **Mr Peter Steele**, group personnel manager; **Mr Paul White**, divisional director parts and service; and **Mr Bruno Kulick**, general manager of Lansing Bagnall GmbH, Roxheim, West Germany.

★

THORN EMI LIGHTING has appointed **Mr Ray Everett** as managing director. He was deputy managing director.

★

Mr Mike Hind has been appointed managing director of "MATCHBOX" (UK) sales and marketing division, following the retirement of **Mr Bob Simpson**, who will continue as a consultant to "Matchbox"'s parent company Universal International (Holdings). Mr Hind was sales director and joined "Matchbox" Toys in 1983 from General Mills.

★

Mr Gerald H. Green has been appointed treasurer of BANCO DI ROMA, London branch. He was chief dealer with Midland Bank.

★

Mr Bruce Bunting has been appointed company secretary of ELECTRAK HOLDINGS and Electrak International. He is financial controller, a role he will continue.

★

OUR PRICE has made the following non-executive board appointments. **Mr Stewart Binnie** is group managing director of Hatchards, retail division of William Collins. **Mr Max Kingsley** is managing director of London Clubs, a subsidiary of Grand Metropolitan. He was a founder shareholder in Our Price and has an interest in 77 per cent of the ordinary shares.

★

Mr Harold W. Draycott has been appointed financial director of QUALCAST (SERPAR), Qualcast lawnmowers' service and parts company. He joins from Pirelli, where he was credit manager.

★

Mr A. S. Manderville has been elected chairman and **Mr P. J. Stilwell** deputy chairman of LLOYD'S MOTOR UNDERWRITERS' ASSOCIATION.

★

Mr John Newman has been appointed to the board of LONDON AND EDINBURGH TRUST. He has been property manager of Fleming Property Unit Trust since 1970. He was also manager of the American Property Unit Trust. Mr Newman has resigned from all his positions at Flemings including being a director of Robert Fleming Properties, Lochside Land and Matheson Properties. He has been chairman of The Committee for Property Unit Trusts for the past two years. **Mr Robert Phipps**, formerly a director of Slough Estates, has also joined the London and Edinburgh Trust board.

BUSINESSMAN'S DIARY

UK TRADE FAIRS AND EXHIBITIONS

Current
Harrogate International Toy Fair (01-226 6853) (until January 17) — **Harrogate**

January 15-18
Which computer? Show (01-891 5051) — **NEC, Birmingham**

January 17-20
Ideal Home Exhibition (0202 886933) **Metropolitan Exhibition Hall.** — **Brighton**

January 17-20
International Contemporary Art Fair (01-486 1951) — **Olympia**

February 12-24
International Catering Exhibition—CATERBRIGHT (01-222 9341) — **Brighton**

February 17-19
International Trade Show for Home Computers, Software and Leisure Electronics—LET (0923 777000) — **Olympia**

January 20-24
International Lightshow Exhibition (05884 658) — **Olympia**

January 26-30
Stationery Industry Exhibition—STATINDEX (01-385 1200) — **Olympia**

January 26-30
British Toy and Hobby Fair (01-701 7127) — **Earls Court**

January 30-February 3
International Swimming Pool and Leisure Show. (Trade: Jan 30-31) (073522 2875) — **Wembley Conference Centre**

February 3-7
International Spring Fair: Gift Show (01-855 9201); Hardware and Housewares Show (0604 22023) — **NEC, Birmingham**

February 8-10
Cruft's Dog Show (01-493 7838) — **Earls Court**

February 10-13
International Men's and Boy's Wear Exhibition (021 705 6707) — **Olympia**

OVERSEAS TRADE FAIRS

Current
Fashion Show (01-486 8686) (until January 16) — **Rio de Janeiro**

January 21-25
International Record and Music *Publishing Market — MIDEM* (01-499 2317) — **Cannes**

February 9-13
International Exhibition of Women's Ready-Made Clothing—Pret-a-Porter (01-439 3964) — **Paris**

February 23-27
International Spring Fair (01-734 0543) — **Frankfurt**

January 30-February 2
International Instrument Control, Automation Measurement and Testing Show — INSTRUMENTASIA (01-486 1951) — **Singapore**

January 30-February 2
The International Building Materials and Systems Show (01-486 1951) — **Hong Kong**

February 4-7
Middle East Electronic Communications Show and Conference—MECOM (01-486 1951) — **Bahrain**

February 8-17
International Boat Show (01-486 1951) — **Helsinki**

February 20-24
International Holiday Fair and Exhibition — FERIENMESSE INTERNATIONAL (01-891 2006) — **Vienna**

BUSINESS CONFERENCES

January 20-25
Tavistock Institute/Institute of Human Relations (Zurich): 1985 Tavistock working conference on rethinking, implementing and managing organisational change (01-435 7111) — **Minster Lovell**

January 22-23
FT Conference: Pensions in 1985 (01-621 1355) — **Inter Continental Hotel, W1**

January 22
The Institute of Purchasing and Supply: Basic arts of buying (0780 56777) — **Cumberland Hotel, W1**

January 23-25
Management Centre Europe: Business frauds—their prevention and detection (Brussels (02) 516 19 11) — **Portman Hotel, W1**

January 25
ESC: Taxation of exchange risk management (0572 822711) — **Selfridges Hotel, W1**

January 28-30
FT Conference: Seminar on the City as a financial and trading centre (01-621 1355) — **Skinners' Hall, EC4**

January 30-March 6
IPM: Flexibility in working time-cost effective initiatives for managers (01-946 1000) — **Embassy Hotel, W2**

January 30
Chatham House: Indonesia at the start of the fourth five-year plan (01-930 2233) — **London, SW1**

January 30
Institute of Management Consultants/Department of Engineering Production, Birmingham University: Managing the 1990s—A framework for business planning (01-584 7285) — **Birmingham University**

January 31
Foundation for Science and Technology: Seminar on technology transfer within the EEC (01-608 0421) — **RSA House, London**

February 4-8
Risk Research Group: Reinsurance practice (01-236 2175) — **Kensington Palace Hotel, W8**

February 7-8
Brunel Institute: Organisational design and levels of management (0895 56461) — **Uxbridge**

February 14-15
Oyez/IBC: The cost and application benefits of Micro CAE (01-437 9090) — **Cafe Royal, W1**

February 14-15
Risk Research Group: The future of Lloyd's (01-236 2175) — **Great Eastern Hotel, EC2**

February 18-19
Open Computer Security: The International Data Security Conference 1985 (0273 672191) — **Dorchester Hotel, W1**

February 20-21
FT Conference: The Third Automated Manufacturing Conference—Challenges for management (01-621 1355) — **Inter Continental Hotel, W1**

February 26
Longman Seminars: Will drafting (01-242 2548) — **Barbican Centre**

February 21
IWP: Text Communications 1985 (01-242 4141) — **London**

Anyone wishing to attend any of the above events is advised to telephone the organisers to ensure that there has been no change in the details published.

WEEK'S FINANCIAL DIARY

The following is a record of the principal business and financial engagements during the week. The board meetings are mainly for the purpose of considering dividends and official indications are not always available whether dividends concerned are interims or finals. The sub-divisions shown below are based mainly on last year's timetable.

TODAY
COMPANY MEETINGS—
Carr's Milling Industries, Crest Hotel, Kingstown, Carlisle, 11.30
Pugh Davies and Co, 29 Dale Street, Manchester, 11.30
BOARD MEETINGS—
Finals:
Blue Arrow
Body Shop International
Brunt Investments
Fleming Claverhouse Investment Trust
London Scottish Finance
Warner Holdings
Interims:
Ailsa Investment Trust
Control Securities
Cray Electronics
DIVIDEND & INTEREST PAYMENTS—
A and G Security Electronics 0.725p
Aitken Hume 2.25p
Anglo Nordic 0.4p
BFG Finance Co BV Fltg Rate Notes 1989 $67.45
Bank of New York Overseas Finance Notes Jan 1996 $295.38
Barlow Rand 49 cts
Brikat Group 0.75p
Brown Shipley Sterling Bond Pf 28p
Cook (William) (Sheffield) 1.1p
Fluor Corpn 10 cts
Funding 3½pc 1999-2004 1.75pc
Guinness Mahon 6pcLn 1991-96 3pc
Hapoalim Intnl Notes 1985 $674.9
Imperial Cold Storage and Supply 4.44800p
Initial 4.75p
Intnl Signal and Control 1 cts
Kynoch (G. and G.) 1p
MK Electric 3.4p
Metal Box 6.1p
Micro Business Systems 1p
Moss (Robert) 0.9p
Motorola Inc 16 cts
Premier Group 32 cts
Scottish Metropolitan Property 2.15p
Treasury 12¼pcLn 1986 6.125pc. 3pc 1987 1.5pc. 12½pcLn 1993 6.25pc. 13pc 2000 6.5pc
Zentralsparkasse und Kommerzialbank Wein Notes 1991 $337.45
TOMORROW
COMPANY MEETINGS—
Concentric, Belfry Hotel, Lichfield Road, Wishaw, Sutton Coalfield, 2.30
McLeod Russel, Victoria House, Vernon Place, WC, 12.00
Pict Petroleum, 48 Queen Street, Edinburgh, 12.00
Windsor Securities, Waldorf Hotel, Aldwych, WC, 11.30
BOARD MEETINGS—
Finals:
Countryside Properties
First Leisure
Heavitree Brewery
Kenning Motor
Interims:
Banks (Sidney C.)
Bromsgrove Casting & Machining
Gnome Photographic Products
Group Investors
Guinness (Arthur)
Samuel (H.)
Westpool Investment Trust
DIVIDEND & INTEREST PAYMENTS—
Agricultural Mortgage Crpn 5½pcDb 1980-1985 2.75pc. 6¼pcDb 1992-94 3.125pc. 5½pcDb 1993-95 2.75pc
Anglo-American Securities 4pcLn 1988 2pc
Arbuthnot Dollar Income Trust 3 cts
Arbuthnot Government Secs 2.75p
Assoc. Electrical Industries 6¾pcDb 1986-1991 3.375pc
Barclays Bank 12pcLn 2010 0.4891p
Belhaven Brewery 0.35p
Bell Canada Enterprises 57 cts
Braithwaite and Co Engineers 4p
Camden (London Borough of) 12½pc 1985 6.25pc
Carr (John) (Doncaster) 1p
Chrysler Corpn 25 cts
Churchbury Estates 4.2pcPf 2.1p
Citicorp Overseas Finance Notes 1982 $285.9
Comfort Hotels Intnl 7½pcLn 1997-2001 4.0164p
Concentric 2.21p
Coras Iompair Eireann 3pc 1975-95 1.5pc
Cosalt 10pcLn 1983-88 5pc
Edinburgh Invest Trust 3¾pcDb 1998 1.875pc. 6¼pcDb 1984-86 3.125pc
General Funds Investment Trust 5pcPf 1.75p. 5½pcDb 1983-88 2.75pc
Greece (Kingdom of) 5pcLn 1907 2.5pc 5pcLn 1907 Bds 1965 2.5pc
Habitat Mothercare 9½pcLn 1998-2001 4.75pc
Hallwood Group 2 cts
Howard and Wyndham 18pcLn 1976-91 9pc
International Thomson Org 8.25 cts
Investors in Industry Notes 1994 $135.48
Leigh Interests 1p
Ley's Foundries and Engineering 6pcPf 2.1p
LASMO 9¾pcPf 4.8125p
Lucas Inds 10¾pcLn 1992-97 5.375pc
M & G Dividend Fund 5.892p
MidCon Group 59 cts
Morgan (J. P.) 110 cts. (Iss Morgan Guaranty) 1 cts
Murray International Trust 4½pcPf 1.575p. 6pcDb 1983-88 3pc
New Throgmorton Trust (1983) 1p
North Surrey Water 4pcDb 2pc. 4¼pcDb 2.125pc 5¼pcDb 2.625pc. 7¼pcDb 1991-1993 3.625pc
Occidental Petroleum Corpn 62.5 cts
Pacific Gas and Electric 43 cts
Phicom Pf 4p
Province de Quebec 15¼pcBds 1989 7.625pc
Quaker Oats 31 cts
Quebec Central Railway 2.5p
Robinson (Thomas) 7pcPf 3.443p
Sandwell (Metropolitan Borough of) 13pc 1985 6.5pc
TR Industrial and General Trust 4¼pcDb 2.125pc
Treasury 11½pc 1985 5.75pc. 13pc 1990 6.5pc 9½pcLn 1999 4.75pc
Upton (E.) 10pcLn 1990 5.315p
Witan Invest 3.4pcPf 1.7p
WEDNESDAY, JANUARY 16
COMPANY MEETINGS—
BOC Group, Lyric Theatre King Street, W, 2.30
General Stockholders Investment Trust, Winchester House, 77 London Wall, EC, 12.15
Hanson Trust, Barbican Hall, Barbican Centre, EC, 11.30
Hardanger Properties, Howard Hotel, Temple Place, Strand, WC, 12.00
RHP Group, Hyde Park Hotel, Knightsbridge, SW, 11.00
Trafalgar House, Institute of Chartered Accountants, Moorgate Place, EC, 11.30
Wolverhampton and Dudley Breweries, Station Hotel, Castle Hill, Dudley, West Midlands, 12.00
BOARD MEETINGS—
Finals:
Bett Brothers
County Properties
Glass Glover
Kennings Estates
Raeburn Investment Trust
Southern Business Leasing
Standard Securities
Interims:
AGB Research
Biotechnology Investments
Cenrovincial Estates
Fleming Technology Investment Trust
DIVIDEND & INTEREST PAYMENTS—
Anglo-Securities Corpn 4½pcPf 1.575p
Birmingham Mint 3.5p
Canadian Pacific Enterprises 20 cts
French Connection Group 1.75p
M & G Second Dual Trust 4.9p
Royal Bank of Scotland Fltg Rate Cap Notes 1986-94
THURSDAY JANUARY 17
COMPANY MEETINGS—
Bridport-Gundry, The Court, West Street, Bridport, 12.00
Fenner (J. H.), Queens Hotel, City Square, Leeds, 12.30
Maynards, Waldorf Hotel, Aldwych, WC 11.30
Morland and Co, The Brewery, Ock Street, Abingdon 12.30
United Wire Group, Granton Park Avenue, Edinburgh 12.00
BOARD MEETINGS—
Finals:
Berisford (S. & W.)
Elandsrand Gold Mining
Electronic Machine
Oakwood
SGB
South African Land & Exploration
Southvaal
Vaal Reefs Exploration and Mining
Western Deep Levels
Interims:
County & New Town Properties
Davy Corporation
Dixons
Dowty
Independent Investment
MFI Furniture
Norbain Electronics
Northamber
DIVIDEND & INTEREST PAYMENTS—
Fuller Smith and Turner A 2.4p
Futura Holdings 1.875p
GR (Holdings) 5.4p
Gartmore American Securities 0.6p
Geevor Tin Mines 4p
General Stockholders Investment Trust 1.4p
Grampian Television N-vtg A 1.3p
Gresham House 1.4p
Gresham Industries 6pcPf 6 cts
Hampton Trust 0.35p
Hardanger Properties 7p
Holden Hydroman 0.975p
Pug Davies 7pcPf 4.41p
Wolverhampton and Dudley Breweries 5.05p
COMPANY MEETINGS—
FRIDAY JANUARY 18
Borthwick (Thomas) and Sons, Butchers' Hall, 87 Bartholomew Close, EC, 12.00
Stainless Metalcraft, Slepe Hotel, Ramsey Road, St Ives, 11.00
BOARD MEETINGS—
Finals:
Abbey Panels
Gestetner
Interims:
Atlantic Assets Trust
Sommerville (William)
DIVIDEND & INTEREST PAYMENTS—
Anglo-International Invest Trust 2.7281p
Bellway 3p
Bergen Bank AS Notes 1991 $28.91
Bridport-Gundry 2.75p
Canadian Imperial Bank of Commerce Dbs 1994 $654.86
Carless Capel and Leonard 1p
Cromano Consumer Products 7½pcLn 1987-92 3.73pc
Equity Consort Investment Trust 3.5p
Fine Art Devpts 1.1p
Finlan (John) 1.8p
GEI Intnl 1.94p
Gee/Rosen Org 0.5p
Hall (Matthew) 1.35p
Hazlewood Foods 5.5p
Lister and Co 0.1p
Marine Midland Banks Notes 2009 $1164.06
Mitchell Somers 1.5p
NatWest Finance BV Gtd Fltg Cap Nts 1991 $327.43
Northern Industrial Improvement Trust 7p
Pauls 2.5p
Sainsbury (J.) 1.4p
Scapa Group 3.7p
Schlumberger 30 cts
600 Group 2.34p
Societe General Notes 1991
Svenska Handelsbanken Notes 1987 $65.81
Toothill (R. W.) 3p
United Leasing 1.4p
United Wire Group 4.05p
Valor 1.235p
Walter (Jim) Intnl Finance Notes Jan 1988 $335.42
Wells Fargo 54 cts
SATURDAY JANUARY 19
DIVIDEND & INTEREST PAYMENTS—
Elys (Wimbledon) 7¼pcDb 1986-91 3.625pc. 9¾pcLn 1995-99 4.875pc
Exchequer 9¾pc 1998 4.875pc
First Union General Invest Trust 12 cts
Treasury 2pc Index-Linked 2006 £1.28
UBK Finance Notes 1990 KD342.125 (Without Warrants) KD342.123
SUNDAY JANUARY 20
DIVIDEND & INTEREST PAYMENTS—
Imperial Brewing and Leisure 3½pcDb 1988 1.75pc. 7pcDb 1987-92 3.5pc. 8pcDb 1989-94 4pc. 6¼pcLn 2004-09 0.0625pc. 10½pcLn 1990-95 5.25pc

Company Notices

IRELAND
US$25,000,000 8¼% Bonds 1989

S.G. WARBURG & CO. LTD., announce that the redemption instalment of US$1,500,000 due 15th February, 1985 has been met by purchases in the market to the nominal value of US$1,240,000 and by a drawing of Bonds to the nominal value of US$260,000.

The distinctive numbers of the Bonds, drawn in the presence of a Notary Public, are as follows:—

28	160	250	331	374	441	517	651	710	759
850	965	998	1057	1113	1217	1303	1371	1539	1704
1745	1795	2001	2101	2174	2262	2306	2370	2457	2557
2616	2659	2719	2789	2847	2913	3071	3152	3189	3258
3307	3379	3903	4615	4730	4784	5155	5507	5540	5571
5723	5914	6018	6126	6165	6305	6766	6867	7499	7580
7832	7918	8035	8070	8101	8137	8167	8198	8288	8400
8517	8597	8710	8766	8865	9075	9114	9180	9274	9932
9964	10219	10599	10739	11424	11455	11487	11518	11549	11580
11621	11652	11682	11714	11754	11785	11817	11848	12051	12081
12113	12154	12185	12217	12248	12278	12487	12539	12620	12680
12712	12743	12773	12810	12868	12899	12942	13037	13080	13234
13266	13297	13392	13423	13698	13756	13788	13819	13850	14047
14078	14255	14520	14593	14640	14705	15207	15301	15425	15549
15582	15635	15698	15758	15789	15820	15873	15904	16072	16274
16305	16335	16485	16667	17181	18296	18377	18507	18549	18580
18667	18698	18768	18881	18912	18960	19017	19083	19115	19326
19356	19388	19419	19450	19567	19598	19629	19724	19755	19787
19854	19885	19917	19947	19978	20009	20041	20082	20114	20145
20176	20206	20238	20382	20414	20445	20475	20570	20709	20812
21208	21240	21271	21301	21332	21364	21395	21587	21618	21648
21679	21712	21852	21883	21999	22030	22206	22260	22295	22328
22365	22429	22584	22616	22647	22678	22772	22803	22834	22865
22896	22927	22958	22990	23101	23131	23222	23256	23288	23319
23350	23381	23412	23443	23474	23505	23537	23568	23598	24120
24151	24217	24248	24314	24423	24453	24539	24570	24601	24981

On 15th February, 1985 there will become due and payable upon each Bond drawn for redemption, the principal amount thereof, together with accrued interest to said date at the office of:—

S.G. WARBURG & CO. LTD.,
33, King William Street, London, EC4R 9AS,

or one of the other paying agents named on the Bonds.

Interest will cease to accrue on the Bonds called for redemption on and after 15th February, 1985 and Bonds so presented for payment must have attached all coupons maturing after that date. US$7,500,000 nominal amount of Bonds will remain outstanding after 15th February, 1985.

33, King William Street, London, EC4R 9AS — 14th January, 1985

NOTICE
FINANCIAL STATEMENTS OF
J. C. PENNEY OVERSEAS CAPITAL N.V.
J. C. PENNEY INTERNATIONAL CAPITAL N.V.
J. C. PENNEY FINANCIAL CORPORATION

NOTICE IS HEREBY GIVEN that copies of the Financial Statements of these companies as at January 28, 1984, are now available at:
CITIBANK, N.A. (CSSI Dept.),
336 Strand,
London WC2R 1HB.
J. C. Penney Overseas Capital N.V.
J. C. Penney International Capital N.V.
J. C. Penney Financial Corporation
January 14, 1985.

ITO YOKADO, LTD.
(CDRs)

The undersigned announces that the Semi-Annual Report for the six month period ended August 31st, 1984 of Komatsu Forklift, Ltd., will be available in Luxembourg at:
Banque Générale du Luxembourg S.A.
and further in Amsterdam at
Algemene Bank Nederland N.V.,
Amsterdam-Rotterdam Bank N.V.,
Bank Mees & Hope N.V.,
Pierson Heldring & Pierson N.V.,
Kas-Associatie N.V.
AMSTERDAM DEPOSITARY COMPANY N.V.
Amsterdam,
January 9th, 1985.

GRANGES AB
The Grangesberg Company
US$15,000,000 8¾% LOAN 1989

S. G. WARBURG & CO. LTD., announce that the annual redemption instalment of Bonds due 15th February, 1985 for a nominal value of US$1,000,000 has been met by purchases in the market.
US$4,000,000 nominal amount of Bonds will remain outstanding after 15th February, 1985.
33, King William Street,
London, EC4R 9AS.
14th January, 1985.

NOTICE TO HOLDERS OF EUROPEAN DEPOSITARY RECEIPTS (EDRs) IN
MITSUI & CO., LTD.

EDR holders are informed that Mitsui & Co. has paid a dividend to holders of record September 30, 1984. The cash dividend payable is Yen 2.5 per Common Stock of Yen 50.00 par share. Pursuant to clause 4 of the Deposit Agreement the Depositary has converted the net amount, after deduction of Japanese withholding taxes, into United States dollars.

EDR holders may now present Coupon No. 32 for payment.

Payment of the dividend with a 15% withholding tax is subject to receipt by the Depositary or the Agent of a valid affidavit of residence in a country having a tax treaty or agreement with Japan giving the benefit of the reduced withholding rate. Countries currently having such arrangements are as follows:

A. R. of Egypt	F. R. of Germany	Malaysia	Singapore
Australia	Finland	The Netherlands	Spain
Belgium	France	New Zealand	Sweden
Brazil	Hungary	Norway	Switzerland
Canada	Indonesia	Poland	United Kingdom
Czechoslovakia	Ireland	Rep. of Korea	U.S. of America
Denmark	Italy	Romania	Zambia

Failing receipt of a valid affidavit Japanese withholding tax will be deducted at the rate of 20% on the gross dividend payable. The full rate of 20% will also be applied to any dividends unclaimed after April 30, 1985.

Amounts payable in respect of current dividends.

Coupon No. 32 EDR denomination 1 share	Gross Dividend	Dividend payable less 15% Japanese withholding tax	Dividend payable less 20% Japanese withholding tax
	$0.010204	$0.008673	$0.008163

Depositary:
Citibank, N.A.
336 Strand, London WC2R 1HB.
January 14, 1985

NOTICE TO HOLDERS OF BEARER DEPOSITARY RECEIPTS (BDRs) IN
HITACHI

BDR holders are informed that Hitachi, Ltd. has paid a dividend to holders of record September 30, 1984. The cash dividend payable is Yen 4.00 per Common Stock of Yen 50.00 per share. The Depositary has arranged for the net amount, after deduction of Japanese withholding taxes to be converted into United States dollars.

BDR holders may now present Coupon No. 3 for payment.

Payment of the dividend with a 15% withholding tax is subject to receipt by the Depositary or the Agent of a valid affidavit of residence in a country having a tax treaty or agreement with Japan giving the benefit of the reduced withholding rate. Countries currently having such arrangements are as follows:

A. R. of Egypt	F. R. of Germany	Malaysia	Singapore
Australia	Finland	The Netherlands	Spain
Belgium	France	New Zealand	Sweden
Brazil	Hungary	Norway	Switzerland
Canada	Indonesia	Poland	United Kingdom
Czechoslovakia	Ireland	Rep. of Korea	U.S. of America
Denmark	Italy	Romania	Zambia

Failing receipt of a valid affidavit Japanese withholding tax will be deducted at the rate of 20% on the gross dividend payable. The full rate of 20% will also be applied to any dividends unclaimed after April 30, 1985.
Amounts payable in respect of current dividends:

Coupon No. 3 BDR denomination 1 share	Gross Dividend	Dividend payable less 15% Japanese withholding tax	Dividend payable less 20% Japanese withholding tax
	$0.016151	$0.013729	$0.012921

Depositary:
Citibank, N.A.
336 Strand, London WC2R 1HB.
January 14, 1985

Clubs

Contracts and Tenders

THE MINISTRY OF EDUCATION IN THE YEMEN ARAB REPUBLIC INVITES OFFERS FOR:

Printing and reprinting school text books, production of different multicoloured teaching posters, supply of equipment and chemicals for laboratories as well as teaching materials, supply of white and coloured chalks and school furniture sets for primary, preparatory and secondary schools. (Quotations for parts of any of the tenders are not allowed.)

Particulars for the tenders as well as documents for the offers can be obtained at the Yemen Embassy, 41 South Street, London W1, against a fee of U.S. dollars 100 for each document of the above seven tenders.

Closing date for the tender will be the 16th of February 1985 at 10.00 a.m. Sana'a local time.

UNION DE BANQUES ARABES ET FRANCAISES—U.B.A.F.

U.S.$65,000,000 Floating Rate Notes 1980-1990

In accordance with the conditions of the Notes notice is hereby given that for the six-month period 14th January 1985 to 15th July 1985 (182 days) the Notes will carry an interest rate of 9⅛% p.a.

Relevant interest will be as follows:
Notes of $1,000 U.S.$45.82

CREDIT LYONNAIS, Luxembourg
Fiscal Agent

Closing prices, January 11

NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

12 Month High	12 Month Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close
23½	16⅛	AAR	.48	2.7	14	139	18⅛	17⅞	18	−⅛
30½	9⅜	AGS			10	43	14¼	13¾	13¾	−¼
21½	13½	AMCA	1	7.3		34	13¾	13¾	13¾	−¼
17⅞	13⅛	AMF	.50	3.5	80	491	14⅛	14⅛	14⅛	+¼
51¼	49⅝	AMF	pf 5e	10		10	50	50	50	−⅛
41¼	24¼	AMR			6	3559	38⅞	38¼	38¼	−⅞
20⅝	16¼	AMR	pf2.18	11		10	19⅝	19⅝	19⅝	+⅛
41½	27½	AMR	pf2.13	5.8		197	37⅛	36⅝	36⅝	−⅜
25¾	22⅞	ANR	pf2.67	11.		7	23⅝	23⅝	23⅝	−¼
14⅛	8½	APL			3	11	10⅝	10⅝	10⅝	+⅛
69⅞	44½	ASA	3	6.3		426	48	47⅞	47⅞	−1⅛
30⅜	16	AVX	.32	1.8	11	171	18⅛	18¼	18¼	−¼
48⅞	34¼	AbtLab	1.20	2.9	13	1524	41⅛	41	41⅛	−½
23⅝	16½	AccoWs	s.44	2.0	18	506	22⅛	21⅛	21⅞	+⅛
27¼	12½	AcmeC	.40	2.8		121	14⅝	14⅜	14½	−⅛
12⅞	8¼	AcmeE	.32b	3.5	13	14	9⅛	9¼	9¼	
18¼	15	AdaEx	1.92e	11		331	17⅛	16⅞	17	−¼
18⅞	17⅞	AdmMl	.32	2.1	8	3	15½	15⅛	15½	
21¼	8⅞	AdvSys	.61t	6.3	16	125	10	9½	9¾	−⅜
41⅛	25⅛	AMD			13	9778	30⅛	29⅝	30⅛	+½
14⅛	6⅞	Advest	.12	1.4		156	8¼	8½	8⅝	−⅛
15¼	8¼	Aeflex			11	23	11¼	11⅛	11⅛	
39	27¼	AetnLf	2.64	7.1	31	3449	37⅞	37⅛	37⅛	−⅛
58⅛	52⅝	AetL	pf5.87e	11		10	55	55	55	+½
34½	15¼	Ahmns	1.20	4.4	12	1191	27⅜	26⅞	27	
5¼	2⅝	Aileen			28	80	2⅛	2¼	2¼	
48⅞	39½	AirPrd	1.20	2.6	10	300	47	46½	46½	−¼
30½	13	AirbFrt	.60	3.0	11	198	20⅛	19⅞	20⅛	+½
4¼	1⅞	AlaMoa	.50e	13		38	3⅝	3⅝	3⅝	
31⅛	26¼	AlaP	pfA3.92	13.		3	30⅝	30⅝	30⅝	+¼
7⅞	6	AlaP	dpf.87	12.		37	7⅛	7¼	7¼	

B-B-B

[illegible]										

C-C-C

[illegible]										

D-D-D

[illegible]										

E-E-E

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F-F-F

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J-J-J

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M-M-M

[illegible]										

N-N-N

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Continued on Page 19

AMERICAN STOCK EXCHANGE COMPOSITE CLOSING PRICES

Closing prices, January 11

12 Month High	Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close
7¼	3⅞	ADI	n		19	21	5	5	5	
3¼	1⅝	ADI	wt			31	2¼	2	2¼	+¼
15⅝	8¼	ALLab	n .20	2.1	9	28	9¾	9⅝	9⅝	
14½	12	AMC	n .12	.8	12	65	u14⅝	14½	14⅝	+⅛
4⅝	2⅞	AM	Int			1713	3¼	3½	3⅝	−⅛
73	58	ATTFd	n5.52e	7.6		164	72¾	72½	72½	−½
6½	2⅞	AcmePr			25	12	4⅝	4¼	4¼	−⅛
15¾	8½	AcmeU	.32	3.2	11	116	10	9⅞	9⅞	
18⅞	9⅝	Action			38	101	15¼	15	15	−¼
9⅝	3⅞	Acton				58	4⅝	4⅜	4⅜	−⅛
3⅝	1½	AdaRs			3	102	1⅝	1⅝	1⅝	
25⅞	15⅝	AdRusl	.14	.5	21	223	u25¾	25½	25¾	+⅛
24¾	15	Adobe	.24	1.5	10	135	16	15¾	15⅞	
8⅞	4½	Aeronc			7	25	6¼	6⅛	6¼	+⅛
26¼	16½	AffilHop	.44	1.7	11	55	25⅞	25	25¼	−¼
59⅞	38½	AfPub	.80	1.7	15	8	47⅞	47	47¼	+¼
9¾	8	AirExp			9	48	7½	7⅜	7⅜	−⅛
14⅞	5⅞	Aircal				35	7½	7⅜	7½	
9¾	2⅞	Alamco			7	35	3⅞	3⅞	3⅞	
75⅞	65½	AlmdO	n			92	73	69¾	72	+2⅝
14	6⅞	AlbaW			9	42	8⅞	7⅞	8⅞	+¼
22¾	9½	Alphain	.06	.5	12	22	10½	10¼	10⅜	+⅛
1⅝	½	Altex				298	13-16	11-16	1⅛	+1-16
⅝	⅛	Altex	wt			10	3-16	3-16	3-16	
34¼	28⅞	Alcoa	pf3.75	12.		2160	31½	31½	31½	+½
22	11	AlzaCp			63	411	21¼	19⅞	20¼	−½
20¾	9½	AmdahI	.20	1.4	18	402	14½	14⅛	14⅞	−½
17	6½	Amedco	.08	.9		48	9⅜	9¼	9¼	−⅜
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Continued on Page 20

NEW YORK STOCK EXCHANGE COMPOSITE CLOSING PRICES

Continued from Page 18

12 Month High	Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20½	16¼	Wynns	.60	3.1	7	28	19⅝	19	19⅝	−⅛

X–Y–Z

12 Month High	Low	Stock	Div.	Yld.	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close
51	33¼	Xerox	3	7.7	11	2580	39¼	39¼	39⅜	−⅞
50½	45¼	Xerox	pf5.45	11.		345	49⅛	49	49⅛	−⅛
36¼	19	XTRA	.64	2.7	9	292	24¼	23¾	23⅞	−¼
37¼	24	ZaleCp	1.32	5.3	8	736	25	24⅝	24⅞	
24⅞	14¼	Zapata	.84	5.6	12	1512	15⅛	14¾	15⅛	−⅛
49	26¼	Zayre	.40b	.8	13	408	48	47⅜	47½	+¼
38⅝	18⅛	ZenithE			7	1435	20⅛	19⅝	19⅞	+⅜
26¼	18	Zero	.40	1.7	17	85	23½	23¼	23⅜	−¼
30½	21⅛	Zurnin	1.32	4.8	12	348	27⅞	27⅜	27⅞	

Sales figures are unofficial. Yearly highs and lows reflect the previous 52 weeks plus the current week, but not the latest trading day. Where a split or stock dividend amounting to 25 per cent or more has been paid, the year's high-low range and dividend are shown for the new stock only. Unless otherwise noted, rates of dividends are annual disbursements based on the latest declaration.

a–dividend also extra(s). b–annual rate of dividend plus stock dividend. c–liquidating dividend. cld–called. d–new yearly low. e–dividend declared or paid in preceding 12 months. g–dividend in Canadian funds, subject to 15% non-residence tax. i–dividend declared after split-up or stock dividend. j–dividend paid this year, omitted, deferred, or no action taken at latest dividend meeting. k–dividend declared or paid this year, an accumulative issue with dividends in arrears. n–new issue in the past 52 weeks. The high-low range begins with the start of trading. nd–next day delivery. P/E–price-earnings ratio. r–dividend declared or paid in preceding 12 months, plus stock dividend. s–stock split. Dividends begins with date of split. sls–sales. t–dividend paid in stock in preceding 12 months, estimated cash value on ex-dividend or ex-distribution date. u–new yearly high. v–trading halted. vi–in bankruptcy or receivership or being reorganised under the Bankruptcy Act, or securities assumed by such companies. wd–when distributed. wi–when issued. ww–with warrants. x–ex-dividend or ex-rights. xdis–ex-distribution. xw–without warrants. y–ex-dividend and sales in full. yld–yield. z–sales in full.

WORLD STOCK MARKETS

OVER-THE-COUNTER

Nasdaq national market, closing prices January 11

AMERICAN STOCK EXCHANGE CLOSING PRICES

Continued from Page 19

CANADA

TORONTO

Closing prices January 11

Sales	Stock	High	Low	Close	Chng
4800	Wesfort o	15	15	15	+ 2
2146	Westmn	$11⅞	11⅝	11¾	− ⅛
5840	Weston	$75¼	74	75	+ ⅛
12166	Woodwd A	$10¼	10⅛	10¼	+ ⅛

Total sales 9,497,814 shares

MONTREAL

Closing prices January 11

Sales	Stock	High	Low	Close	Chng
72454	Bank Mont	$26¼	26	26⅛	
500	CIL	$25¼	25	25¼	+ ¼
3900	ConBath	$16¼	16	16	− ⅛
10163	DomTxtA	$13¼	13	13	
100	MntTrst	$12	12	12	− ¼
40255	NatBk Cda	$14¼	14⅛	14½	− ¼
1024	Power Corp	$28½	28⅛	28⅜	− ⅛
500	RollandA	$14¼	14¼	14¼	
35684	Royal Bank	$30¼	29⅞	30	− ¼
11733	RoyTrstco	$17¼	17	17¼	+ ¼

Total sales 2,093,493 shares

Continued on Page 21

AUSTRIA

1984/85 High	Low	Jan. 11	Price Sch
229	202	Credit'stalt Pfd..	227
342	318	Goesser	335
410	381	Interunfall	405
229	203	Laenderbank	226
389	300	Perlmooser	361
167	139	Steyer-Daimler.	163
255	206	Veitscher Mag	253

BELGIUM/LUXEMBOURG

1984/85 High	Low	Jan. 11	Price Frs.
2,085	1,670	B.B.L.	1,860
5,600	4,865	Banq. Int. A. Lux	5,530
5,000	3,105	Bekaert B.	4,450
2,800	2,010	Ciment CBR	2,520
328	175	Cockerill	276
6,050	4,750	Delhaize	5,600
3,920	2,390	EBES	2,860
8,800	5,850	Electrobel	8,190
2,425	1,800	Fabrique Nat	2,105
3,895	3,060	GB Inno BM	3,100
2,800	2,050	GBL (Brux)	2,085
3,935	2,970	Gevaert	3,650
6,480	4,860	Hoboken	6,140
3,000	1,805	Intercom	2,100
7,740	6,280	Kredietbank	7,710
10,350	8,950	Pan Hldgs	9,900
8,210	6,010	Petrofina	6,900
10,500	7,320	Royale Belge	10,200
3,500	2,885	Soc. Gen. Banq	3,270
1,940	1,600	Soc Gen. Belge	1,845
8,340	5,190	Sofina	7,800
4,500	3,430	Solvay	4,130
1,520	1,050	Stanwick Intl.	1,450
4,300	3,125	Tractionel	3,935
5,490	3,940	UCB	4,950
2,670	1,865	Wagon Lits	2,330

DENMARK

1984/85 High	Low	Jan. 11	Price Knr. %
362	216	Andelsbanken	259
720	510	Baltic Skand	540
350	207	CopHandelsbank	261
650	460	D. Sukkerfab	475
335	205	Danske Bank	262
1,900	930	De Danske Luft.	1,085
218	129	East Asiatic	138
1,250	720	Forenede Brygg.	780
153	65	Forenede Damp.	98
700	352	GNT Hldg	352
726	340	I.S.S.B.	345
760	443	Jyske Bank	502
3,150	1,200	Novo Ind.	1,420
372	203	Privatbanken	226
370	283	Provinsbanken	314
300	200	Smidth (F)	220
1,375	845	Sophus Berend	885
588	404	Superfos	407

FRANCE

1984/85 High	Low	Jan. 11	Price Frs.
1,999	1,625	Emprunt 4½% 1973	1,665.5
10,020	8,040	Emprunt 7% 1973	8,150
244	202	Accor	241
578	497	Air Liquide	575
650	375	BIC	542
1,995	1,415	Bongrain	1,731
836	560	Bouygues	710
2,885	2,340	BSN Gervais	2,445
1,295	1,012	CIT Alcatel	1,240
1,915	1,005	Carrefour	1,871
1,145	774	Club Mediter	1,130
602	427	Cie Bancaire	602
262	207	Cofimeg	245.2
2,448	2,170	Damart	2,446
1,197	780	Darty	1,120
941	593	Dumez S.A.	719
598	488	Eaux (Cie Gen.)	550
278	179	Elf-Aquitaine	230
3,020	2,195	Essilor	2,940
706	537	Gen.Occidentale	655
97.4	63.9	Imetal	79
393.5	300	Lafarge Coppee	379
2,600	2,101	L'Oreal	2,400
2,340	1,778	Legrand	1,973
357	140	Maisons Phenix	214
2,050	1,300	Matra S.A.	1,759
1,084	725	Michelin B.	807
2,175	1,372	Midi (Cie)	2,170
1,939	1,313	Moet Hennessy	1,932
140.5	89.8	Moulinex	91.1
79.5	43.7	Nord Est	79.5
845	662	Pernod Ricard	705
674	462	Perrier	485.5
313	184.5	Petroles Fra.	255
262	179.5	Peugeot S.A.	259
199.9	130.2	Printemps (Au)	190
410	196.2	Radiotech	221
1,540	1,030	Redoute	1,215
1,710	726	Roussel-Uclaf	1,675
295	235	Sefimeg	295
1,910	1,180	Skis Rossignol	1,910
2,315	1,470	Telemech Elect.	2,260
445	239	Thomson (CSF)	440.5
356	205	Valeo	225

GERMANY

1984/85 High	Low	Jan. 11	Price Dm
115.7	80	AEG-Telef.	107
1,147	725	Allianz Vers	107.5
185.9	146.5	BASF	183.8
195	152.2	Bayer	192.5
340	247	Bayern-Hypo	333
358	287	Bayern-Verein	338.3
316	219	BHF-Bank	285.5
453	290.5	BMW	383.5
247.6	192.8	Brown Boveri	200.8
190	136.5	Commerzbank	173.2
141.4	107.4	Conti Gummi	118
638	515	Daimler-Benz	614.5
412	338	Degussa	340
192.6	136.5	D'sche Babcock	157.5
403.8	302.1	Deutsche Bank	396.5
197.8	138.5	Dresdner Bank	193.8
166.7	126.5	GHH	165.5
623	450	Hochtief	490
195.5	155.5	Hoechst	185.7
132.5	87.5	Hoesch Werke	99.2
466	349	Holzmann (P)	390
203	151	Horten	179
312	210	Hussel	302
283	219.8	Karstadt	241.5
269.8	188	Kaufhof	227
284.5	212	KHD	254.5
78.5	47.9	Kloeckner	75.1
418	336	Linde	400
195	133	Lufthansa	192.6
161	125	MAN	159.3
158	131.3	Mannesmann	156.5
605	449	Mercedes Hld.	548.5
249	200	Metallgesell.	218.5
1,370	910	Muench Rueck	1200
548	458	Nixdorf	527
1,115	918	Porsche	1076
288	216.5	Preussag	254.5
188.6	125.5	Rhein West Elect	168.6
291	245	Rosenthal	248
460.8	317	Schering	454
497	353.5	Siemens	492.5
94.5	69.3	Thyssen	84
198	160	Varta	175
185	159.5	Veba	174.5
127.9	108.5	V.E.W.	124.7
335	285	Verein-West	305
231.8	163	Volkswagen	206.5

NORWAY

1984/85 High	Low	Jan. 11	Price Kroner
190	140	Bergens Bank	167.5
380	215	Borregaard	380
190	139	Cristiania Bk	163.5
188.5	142	Den Norsk Credit	168
187.5	105	Elkem	127
178.5	132.5	Kvaerner	173
400	252	Norsk Data	397.5
137.5	95	Norsk Hydro	107
273.5	172	Storebrand	230

SPAIN

1984/5 High	Low	Jan. 11	Price Pta %
368	252	Bco Bilbao	313
375	278	Bco Central	310
223	193	Bco Exterior	203
264	157	Bco Hispano	172
421	224	Bco Popular	389
348	267	Bco Santander	333
181	120	Dragados	174
85.7	41.2	Hidrola	86.7
90.5	40.5	Iberduero	87.5
172.5	102	Petroleos	157.2
104.7	69.7	Telefonica	103

ITALY

1984/85 High	Low	Jan. 11	Price Lire
19,750	14,100	Banca Com'le	17,810
192	89	Bastogi IRBS	188.25
2,500	1,418	Centrale	2,478
5,655	3,611	Credito Varesino	4,289
4,625	1,676	Fiat	2,260
59	27	Finsider	57
39,300	29,070	Generali (Assc.)	36,495
3,485	2,621	Invest	2,925
73,500	40,500	Italcementi	73,500
565	345	La Rinascente	565
1,400	1,112	Montedison	1,371
6,080	3,865	Olivetti	6,020
3,628	2,464	Pirelli Co	3,628
2,010	1,419	Pirelli Spa	2,010
2,317	1,336	Snia BPD	2,317
14,600	10,750	Toro Assic	13,750
11,310	8,060	do. Pref	10,830

NETHERLANDS

1984/85 High	Low	Jan. 11	Price Fls
215	153	ACF Holding	194
160	107	AEGON	160
236	168.5	Ahold	205.5
123.2	77	AKZO	101
445	202	ABN	381
227.5	141.9	AMEV	227.5
82	51.6	AMRO	72.6
222	144	Bredero Cert	154
53	8.8	Bos Kalis Westm	12.8
81	61	Buehrmann-Tet.	81
41.5	30.1	Calland Hldgs	38.5
161.8	124	Dordtsche Pet'm	158
121.8	73	Elsevier-NDU nv.	120.5
93	41	Fokker	93
175.5	130.7	Gist Brocades	175.5
157	116	Heineken	150.8
70.5	41.6	Hoogovens	63.4
46.6	32.6	Int-Mueller	42.9
47.7	30.0	KLM	47.7xc
49.0	34.1	Naarden	47.8
274	186	Nat Ned Cert	274
198	123	Ned Mid Bank	159.5
165.8	99.7	Nedlloyd	154.8
292	212	Oce Grinten	292
34.5	24.4	Ommeren (Van)	28.5
77	53	Pakhoed	74.3
67.3	41.7	Philips	57
70.6	58.3	Robeco	70.6
139	130.1	Rodamco	136.7
67.4	55.8	Rolinco	64
43.9	39.6	Rorento	43.6
180.3	136.2	Royal Dutch	173.6
324	232.5	Unilever	324
146	90	VMF Stork	145
216.5	137	VNU	216.5
145.5	72.6	West Utr Bank	131

SWEDEN

1984/85 High	Low	Jan. 11	Price Kronor
400	330	AGA	368
302	170	Alfa-Laval	301
480	280	ASEA (Free)	360
640	300	Astra (Free)	395
141	95	Atlas Copco	112
531	205	Cardo (Free)	284
192	114	Cellulosa	132
288	215	Electrolux B	268
390	244	Ericsson	274
370	290	Esselte	305
375	218	Mo Och Domsjo	298
247	153	Pharmacia	210
609	310	Saab Scania Free	430
425	310	Sandvik	390
425	297	Skandia	265
75	50.0	Skan Enskilda	59.5
223	154	SKF	187
197.5	145	St. Kopparbergs	170
237	169	Sven Handelsbn.	200
380	215	Swedish Match	271
258	169	Volvo B (Free)	235

SWITZERLAND

1984/85 High	Low	Jan. 11	Price Frs.
928	660	Alusuisse	747
4,590	3,360	Bank Leu	3,850
1,580	1,240	Brown Boveri	1,490
2,590	2,085	Ciba Geigy	2,590
2,190	1,655	do. (Part Certs)	2,110
2,400	2,040	Credit Suisse	2,385
2,820	2,290	Elektrowatt	2,750
748	590	Fischer (Geo)	620
112,250	85,000	Hoff Roche PtCts	90,500
10,900	8,500	Hoff-Roche 1/10	9,075
6,825	5,725	Jacobs Suchard	6,500
1,970	1,700	Jelmoli	1,970
1,650	1,290	Landis & Gyr	1,650
5,955	4,665	Nestle	5,870
1,545	1,030	Oer-Buehrle	1,320
280	243	Pirelli	269
7,800	6,450	Sandoz (Br)	7,400
1,225	940	Sandoz (Pt Cts)	1,195
655	460	Schindler (Pt Cts)	655
4,010	810	Sika	1,120
4,175	3,410	Surveillance	4,055
1,100	900	Swissair	1,080
366	309	Swiss Bank	363
9,100	7,050	Swiss Reinsce	9,100
1,590	1,320	Swiss Volksbk	1,495
3,675	3,150	Union Bank	3,675
3,585	2,770	Winterthur	3,530
19,059	16,550	Zurich Ins.	18,900

SINGAPORE

1984/85 High	Low	Jan. 11	Price $
3.14	1.53	Boustead Hldgs.	1.56
3.14	2.30	Cold Storage	2.53
10.70	4.98	DBS	5.15xa
6.00	4.62	Genting	4.7
2.91	1.90	Haw Par. Bros	1.97
4.74	2.88	Hong Leong Fin.	2.96
3.66	2.31	Inchcape Bhd.	2.52
3.65	1.45	Keppel Shipyard	1.48
10.40	5.35	Malay Banking	5.45
3.32	2.2	Malay Utd. Int.	2.34
2.27	0.9	Multi Purpose	0.90
11.80	8.5	OCBC	8.75
5.05	3.04	OUB	3.78
2.53	1.62	Public Bank	1.66
2.87	1.63	Sime Darby	1.67
6.15	5.7	Singapore Press.	5.8
6.95	4.34	Straits Trdg	4.38
3.99	2.8	Tate Lee Bk.	2.8
5.90	4.12	UOB	4.18

AUSTRALIA

1984/85 High	Low	Jan. 11	Price Aust. $
5.93	4.27	ANZ Group	5.14
1.05	0.60	Alliance Oil Dev.	1.05
2.11	1.40	Ampol Pet.	1.75
1.05	0.78	Ashton	0.8
1.97	1.65	Aust. Cons. Ind	1.97
3.4	2.35	Aust Guarantee	2.6
2.75	1.90	Aust. Nat. Inds.	2.35
2.46	1.80	Aust. Paper	2.3
6.40	3.90	Bell Group	4.8
8.90	3.50	Bell Res.	4.55
1.72	1.15	Bond Corp Hldgs	1.16
4.00	3.02	Boral	3.2
2.72	1.42	Bougainville	1.67
3.62	2.50	Brambles Ind.	3.55
3.62	2.1	Bridge Oil	2.25
6.08	4.88	B.H. Prop.	5.06
6.20	4.46	CRA	5
4.28	2.7	CSR	2.83
4.56	3.82	Carlton & Utd	4.30
5.56	4.08	Castlemaine Tys	4.28
4.24	3.30	Coles (G.J.)	3.97
3.22	2.00	Comalco "A"	2.1
1.30	0.37	Consolidated Pet	0.49
1.6	1.10	Costain Aust.	1.3
2.00	1.45	Dunlop Aust.	1.9
3.53	2.33	Elders IXL	3.08xc
1.80	1.30	Energy Res	1.41
2.40	1.65	Gen. Prop. Trust	2.11
3.95	2.88	Hardie (James)	3.98
3.3	1.90	Hartogen Energy	2.25
4.55	2.95	Herald W'y Times	3.7
2.35	1.75	ICI Aust.	2.1
0.48	0.18	Jimberlana F.P.	0.3
0.20	0.1	Kiaora Gold	0.11
6.5	4.46	Lend Lease	5.26
3.98	2.22	MIM	2.44
3.86	2.12	Mayne Nikless	2.98
2.15	1.59	Myer Emporium	1.78
3.92	3.00	Nat. Aust. Bank	3.55
12.80	8.0	News	10.9
5.2	2.45	Nicholas Kiwi	5.18
3.32	1.90	North Bkn Hill	2.01
1.11	0.61	Oakbridge	0.68
1.48	0.9	Pancont'l	0.91
2.09	1.1	Pioneer Conc	1.69
5.10	2.5	Poseidon	2.76
1.21	0.84	Queensland Coal	1.1
3.15	2.4	Reckitt & Coln.	3.1
1.40	1.01	Repco	1.1
8.20	5.26	Santos	5.4
4.40	3.20	Smith (Howard)	3.4
2.48	1.53	Thos. Natwide	1.8
5.9	4.98	Tooth	5.8
4.05	2.55	Vamgas	3.1
4.45	2.60	Western Mining	2.76
4.08	3.38	Westpac Bank	3.44xt
1.35	0.92	Woodside Petrol.	0.95
3.65	2.2	Woolworths	2.62
3.82	2.50	Wormald Intl.	3.15

SOUTH AFRICA

1984/5 High	Low	Jan. 11	Price Rand
3.2	1.18	Abercom	1.18
9.75	7.2	AE & CI	7.65
42.25	23.5	Anglo Am. Coal	40
26.65	19.75	Anglo Am Corp	24.15
178.5	127	Anglo Am. Gold	178.5
23.5	14.9	Barclays Bank	15.5
14.95	10.15	Barlow Rand	10.25
88.5	55.8	Buffels	72
3.6	1.7	CNA Gallo	2.2
5.5	3.2	Currie Finance	4.2
10.9	8.14	De Beers	8.5
56.5	36.5	Driefontein	53
61	23	FS Geduld	50
33.3	22.5	Gold Fields S.A.	27.25
6.5	3.50	Highveld Steel	3.85
19.75	10.7	Nedbank	11.1
21.5	12.6	OK Bazaars	14
3.80	1.35	Protea Hldgs	1.35
32	20	Rembrandt	29.75
15.75	12.1	Rennies	14.25
16.55	12.65	Rust Plat	16.1
9.5	6.55	Sage Hldgs	7.3
7.9	5.6	SA Brews	6.65
26.75	17.8	Smith (C.G.)	21.5
13.00	6.75	Tongaat Huletts	6.5
5.90	4.00	Unisec	4.6

HONG KONG

1984/85 High	Low	Jan. 11	Price H.K.$
29.7	17.8	Bank East Asia	25.5
12.3	6.15	Cheung Kong	13.3
15.0	7.5	China Light	15
4.35	1.14	Evergo	1.48
48.0	25.9	Hang Seng Bank	48
7.4	5.05	HK Electric	7.25
5.8	2.75	HK Kowloon Wh.	5.8
4.3	2.02	HK Land	4.2
9.3	5.2	HK Shanghai Bk.	9.3
60	35.5	HK Telephone	59
19.4	8.4	Hutchison Wpa	19.4
14.4	5.5	Jardine Math	9.5
5.4	2.25	New World Dev.	5.2
2.87	1.95	Orient O'seas	2.70
4.0	2.02	O'seas Trust Bnk	3.9
8.75	4.12	SHK Props	8.75
2.60	1.44	Shell Elect.	1.98
24.2	12.9	Swire Pac A.	24.2
5.7	2.85	TVB	5.7
4.2	2.85	Wheel'k Mard A.	4.2
2.3	1.11	Wheel'k Maritime	1.13
2.6	1.37	World Int. H'ldgs	1.98

JAPAN

1984/85 High	Low	Jan. 11	Price Yen
1,270	980	Ajinomoto	1,180
2,880	1,830	Alps Electric	2,020
1,410	985	Amada	1,140
738	405	Asahi Chem.	710
920	635	Asahi Glass	915
653	516	Bridgestone	544
1,670	1,070	Canon	1,410
1,860	1,080	Casio Comp.	1,840
1,170	940	Chugai Pharm.	1,080
709	446	Citizen	562
757	620	Daiei	626
1,180	875	Dai Nippon Ptg	981
610	435	Daiwa House	580
390	307	Ebara	335
1,570	985	Eisai	1,440
12,900	7,385	Fanuc	11,230
1,430	800	Fuji Bank	1,410
2,310	1,450	Fuji Film	1,710
1,810	762	Fujisawa	1,070
1,640	1,080	Fujitsu	1,400
2,080	1,490	Green Cross	1,680
453	320	Hasegawa	465
684	527	Heiwa Real Est.	633
1,000	780	Hitachi	880
1,930	1,020	Hitachi Credit	1,190
1,490	989	Honda	1,290
899	671	House Food	700
2,870	1,460	Hoya	2,160
380	274	Itoh (C)	376
2,650	1,740	Ito-Yokado	2,570
2,420	1,180	Iwatsu	1,400
404	313	JACCS	333
5,650	2,460	JAL	5,400
884	710	Jusco	745
330	265	Kajima	283
855	660	Kao Soap	855
761	580	Kashiyama	618
625	510	Kirin	560
1,150	890	Kokuyo	987
645	408	Komatsu	471
765	532	Konishiroku	570
343	295	Kubota	328
655	416	Kumagai	514
8,440	6,250	Kyoto Ceramic	6,810
635	380	Maeda Const.	475
1,650	1,080	Makino Milling	1,200
1,320	887	Makita	1,050
415	265	Marubeni	389
700	535	Marudai	570
1,480	1,000	Marui	1,070
2,010	1,390	MEI	1,800
791	602	M'ta Elec. Works	650
1,410	500	M'bishi Bank	1,380
589	501	M'bishi Corp	573
449	361	M'bishi Elect	408
689	438	M'bishi Estate	561
275	215	MHI	254
390	321	Mitsui Co.	348
778	589	Mitsui Estate	710
406	334	Mitsukoshi	390
991	620	NGK Insulators	960
232	191	Nihon Cement	217
1,630	1,300	Nippon Denso	1,340
1,540	1,050	Nippon Elect	1,240
369	280	Nippon Express	340
1,590	600	Nippon Gakki	1,470
162	133	Nippon Kokan	138
1,220	830	Nippon Oil	970
740	490	Nippon Seiko	660
704	500	Nippon Shimpan	618
185	143	Nippon Steel	153

NOTES—Prices on this page are as quoted on the individual exchanges and are last traded prices. § Dealings suspended. xd Ex dividend. xc Ex scrip issue. xr Ex rights. xa Ex all.

WORLD STOCK MARKETS

OVER-THE-COUNTER

Continued from Page 20

Stock	Div.	Sales (Hnds)	High	Low	Last	Chng
Isomdx		23	12⅞	12	12⅛	+⅞
Itel		1478	5⅞	5½	5⅞	-⅛
Itel pf		4	25¼	25¼	25¼	-⅛
J—J						
JBRest	.24	86	14⅛	14	14	
Jackpot	t	133	4⅛	4	4	-¼
JackLfe		247	30½	30	30⅞	+⅞
JamWtr		516	21¾	20¾	21⅞	+1⅛
JefSmf	.40a	185	18¼	17¾	18¼	
JefMart		27	7	6¾	7	+¼
Jerico	.12	318	16⅜	16⅜	16⅜	+⅛
Jfly s		1199	⅞	9-16	15-1	-16
Jonicbl	t	44	4	3⅝	3⅝	-⅛
Jonel A	1	87	3⅞	3⅝	3⅝	
Josphsn	.50	2066	9⅞	9	9⅞	+1
Juno		282	22½	22	22	
Justin s	.30	97	15¼	15	15	
K—K						
KLA s		590	17	16⅝	16⅝	-⅛
KV Phr		8	4⅝	4⅝	4⅝	+⅛
Kaman	.56	62	22⅞	22	22⅝	+¼
Karchr		703	14⅛	13¾	14⅛	+⅛
Kasler	.60t	100	13½	13	13½	+¼
Kaydon		246	7½	7	7¼	+¼
KellyJn		2155	2½	2	2¼	
Kemp	1.80	228	44⅝	44¼	44⅜	-⅛
KyCnLf	.80	58	35⅞	35⅝	35⅞	
Kewnz		16	6⅞	5⅞	6¼	-⅛
KeyTrn		320	9½	8⅞	8⅞	-⅛
Kinbal	.5e	131	28¼	27	27	-1¼
Kimbdk		16	5¼	5½	5½	-½
Kinead		5	6¼	6¼	6¼	
Kinder s	.08	581	15¼	15⅛	15½	+½
Kroy	.08	1854	13	9⅞	10	-2¾
Krugr s	.32	484	13⅞	13¼	13⅞	-⅛
Kulcke	.16	278	25½	24⅞	25⅛	-¼
L—L						
LDBrnk		586	9¼	8½	9	+½
LIN		466	7	6⅞	7	+⅝
LSI Log		737	15½	14¼	14¼	-½
LTX		437	18½	18	18⅛	
LaPete s		288	15⅛	14⅞	15	
LaZ By	.04e	155	35¼	34⅞	35	+½
LadFrn	.12a	602	15⅛	14⅛	15	+⅞
Laidlw	.16	665	14⅛	13¼	13⅞	-⅛
LamaT	.30	73	13	12⅞	12⅞	+⅛
Lancast	.88	184	15⅛	15⅛	15⅛	
LndBF	.80	302	13¾	13½	13⅝	
LdmkS		577	6⅞	6½	6½	-⅛
LaneC s	.80a	318	39½	39	39½	
Langly	.25e	8	6⅞	6⅝	6⅞	+⅛
Lanso s	.20	132	25¼	24½	25¼	+1⅛
LeeDta		910	6⅞	6⅛	6⅞	+½
Leiner		31	12⅞	12⅛	12⅞	
LewisP	.28b	18	7⅞	7½	7⅞	+⅛
[illegible]						

Stock	Div.	Sales (Hnds)	High	Low	Last	Chng
McFad		111	10¼	10	10	-⅛
McFad		28	11⅞	11⅝	11⅝	+⅛
Medex	.05	64	7½	7¼	7¼	
MedCre		257	6¼	6	6⅛	+⅛
MedcSh		135	14⅛	14¼	14½	+⅛
Medlx		466	16¼	16⅛	16⅝	+⅛
Megdt s		20	6⅞	6⅛	6⅞	
Mentor		118	13¼	12½	13	
MercG		1352	21	20	20¼	
MercB s	1.92	97	33¼	33	33	
MercBk	1.08	11	43¼	43	43	
MrchCo		1	12½	12½	12½	-⅛
MerSv	.28	18	23⅞	23½	23⅞	+⅛
MrdBc	2.40	118	39¼	39½	39½	+⅛
MrdB pf	2.50	4	30	30	30	+⅛
MerrlB	1	20	20⅝	20⅝	20⅝	-⅛
MeryG s		218	15½	14½	15	
MetrAir		59	11⅞	11⅝	11⅝	-⅛
MetSL	.80	123	10⅞	10¼	10⅝	+⅛
Micom		1615	28½	28	28	
MicD		175	4⅛	3⅞	4⅛	+⅛
MicrMk		37	10⅞	10⅞	10⅞	+⅛
Micrdy	.08	208	5¼	5	5	
MicrTc		2218	22¼	21½	21⅞	-⅛
Microp		209	5	4⅞	4⅞	
MicrSm		220	5¼	5	5¼	
MdPcA		20	5⅞	5½	5⅞	-⅛
MdStFd	.40	35	18½	18½	18½	+¼
MidBk s	1.12	51	23⅞	23⅝	23½	+⅛
MdwAir		109	4	3⅞	4	
MillTch		2	2	2	2	
MillHr	.44	167	33¼	33½	33¼	+½
Milicm		64	4	3¾	4	
Millpr	.44	490	35¼	34⅞	34⅞	-⅛
Miniscr		1359	4	3½	3½	-⅛
Minstr s		59	19½	19⅛	19½	-⅛
MGask	.01e	202	14⅞	14⅝	14⅞	+¼
MobiC A		41	8	7⅞	8	+⅛
MobiC B		969	8⅞	7⅞	8⅞	+⅛
Modine	1.40	101	37¼	36⅞	36⅞	-⅛
Molectr		87	8½	8	8	
Molex	.03	211	31⅞	30¾	31⅛	+1
MonCa	1.40	473	44⅞	44⅞	44⅞	+⅛
Moncor		49	3⅝	3½	3⅝	
MonfCl	.35e	190	18¼	18¼	18¼	-⅛
MonAnt		70	6⅞	6⅛	6⅞	+⅛
MonoR		3528	14½	13⅞	14½	+⅛
MonuC	1.30	1498	30	29½	29⅞	+⅛
MorFlo	.01	60	15⅞	15⅞	15⅞	+¼
MorKg	.12e	38	11⅞	11¼	11¼	+¼
Morrsn	.48	139	16⅞	16⅞	16⅞	
Moseley		1771	6½	6⅛	5¼	
MotClb	.20	886	13⅞	13¼	13¼	+¼
Multmd	.60	3486	39½	39	39⅛	+⅛
Mylan s	.10i	392	24⅞	24⅞	24⅞	+⅛
N—N						
NMS		201	3¼	3	3¼	
NBnTex	.84	29	20⅞	20¼	20⅞	
NtCty s	1.20	154	38½	38¼	38½	+¼
NtCptr	.24	136	21¾	21¼	21⅞	
NData	.44	360	9	8⅞	8⅞	
[illegible]						

M—M ... O—O ... P—Q ... R—R ... S—S ... T—T ... U—U ... V—V ... W—W ... X—Y—Z [illegible]

Indices

NEW YORK DOW JONES

	Jan. 11	Jan. 10	Jan. 9	Jan. 8	Jan. 7	1984-85 High	1984-85 Low	Since Compiltn High	Since Compiltn Low
●Industr'ls	1218.03	1223.50	1202.74	1191.70	1190.59	1286.64 (6-1-84)	1088.57 (24-7)	1287.20 (29-11-83)	41.22 (2-7-32)
H'me Bnds	72.52	72.68	72.66	72.64	72.74	72.92 (18-12)	64.81 (25-5)	—	—
Transport.	572.52	569.97	564.44	556.69	557.02	612.63 (9-1-84)	444.03 (25-7)	612.63 (9-1-84)	12.32 (8-7-32)
Utilities	147.26	147.36	147.16	146.65	147.21	149.93 (18-12)	122.25 (15-6)	163.72 (20-4-69)	10.5 (28-4-42)
TradingVol 000-†	107,580	124,860	99,230	92,110	86,190	—	—	—	—

●Day's High 1229.35 (1225.93) low 1210.91 (1195.56)

	Jan. 4	Dec. 21	Dec. 14	year ago (approx)
Industrial div. yield %	5.08	4.89	4.99	4.23

STANDARD AND POORS

	Jan. 11	Jan. 10	Jan. 9	Jan. 8	Jan. 7	1984-85 High	1984-85 Low	Since Comp'tn High	Since Comp'tn Low
Indust'ls	187.18	187.63	183.93	182.62	182.85	191.48 (6-11)	167.74 (24-7)	194.84 (10-10-83)	5.62 (30-6-32)
Comp's'te	167.91	168.31	165.18	163.99	164.24	170.41 (6-11)	147.82 (24-7)	172.15 (10-10-83)	4.40 (1-6-32)

	Jan. 2	Dec. 26	Dec. 19	year ago (approx)
Industrial div. yield	4.14	4.11	4.09	3.70
Industrial P.E ratio	10.32	10.42	10.43	13.64
Long Gov. Bond yield	11.65	11.58	11.25	11.74

N.Y.S.E. ALL COMMON

Jan. 11	Jan. 10	Jan. 9	Jan. 8	1984-85 High	1984-85 Low
96.98	97.13	95.44	94.81	98.12 (6.11)	85.13 (24.7)

Rises and Falls

	Jan. 8	Jan. 10	Jan. 9
Issues Traded	2,032	2,013	2,016
Rises	904	1,286	1,071
Falls	714	351	495
Unchanged	414	376	450
New Highs	—	94	44
New Lows	—	15	12

TORONTO

	Jan. 11	Jan. 10	Jan. 9	Jan. 8	1984-85 High	1984-85 Low
Metals & Minerals	1949.9	1968.8	1946.9	1922.5	2524.4 (12-1-84)	1641.2 (26-7)
Composite	2375.78	2381.2	2359.1	2348.5	2585.7 (6-1-84)	2079.7 (24-7)
MONTREAL Portfolio	118.80	119.16	117.88	117.15	126.85 (10-1-84)	100.56 (24-6)

NEW YORK ACTIVE STOCKS

Friday	Stocks traded	Closing price	Change on day		Stocks traded	Closing price	Change on day
ATT	3,017,200	20⅛	-⅛	Amer. Exp.	1,024,700	38⅛	+⅛
Fannie Mae	1,755,600	16⅛	+¼	Am. Med. Int.	1,014,600	20½	-¾
Hewlett-Pack.	1,371,100	35⅞	-⅛	Adv. Micro	977,800	30½	+½
Phibro-Sal.	1,139,100	33½	+¼	Schlumberger	975,800	36	-1
IBM	1,127,400	122⅝	-1	Gen. Motors	971,700	79½	-⅛

	Jan. 11	Jan. 10	Jan. 9	Jan. 8	1984-85 High	1984-85 Low
AUSTRALIA						
All ord. (1-1-80)	730.2	723.1	715.6	718.3	797.9 (9-1-84)	540.3 (18-6)
Metals & Mins. (1-1-80)	409.6	405.8	395.2	396.6	567.4 (5-1-84)	395.6 (7-1-85)
AUSTRIA						
Credit Aktien (2-1-62)	58.68	58.76	58.73	58.81	59.37 (28-12)	53.20 (15.6)
BELGIUM						
Brussels SE (1-1-80)	2165.60	2160.06	2155.45	2158.30		—
DENMARK						
Copehagen SE (3-1-83)	160.51	159.75	159.38	158.44	225.21 (20-1-84)	158.44 (8-1-85)
FRANCE						
CAC General (31-12-82)	190.0	189.0	187.7	186.1	190.0 (11-1-85)	155.6 (5-1-84)
Ind Tendance (28.12.84)	104.3	104.0	103.4	103.2	104.3 (11-1-85)	100.0 (28-12-84)
GERMANY						
FAZ Aktien (31-12-58)	392.27	394.39	392.75	391.66	394.39 (10-1-85)	317.17 (25-7)
Commerzbank (1-12-53)	1142.70	1146.1	1141.4	1137.8	1146.1 (10-1-85)	917.7 (25-7)
HONG KONG						
Hang Seng Bank (31-7-64)	1352.69	1318.55	1269.95	1283.01	1352.69 (11-1-85)	746.02 (13.7)
ITALY						
Banca Comm Ital. (1972)	245.21	241.98	236.21	232.84	245.21 (11-1-85)	192.06 (2-1-84)
JAPAN**						
Nikkei Dow (16-5-49)	11812.24	11824.4	11765.6	11679.8	11824.4 (10-1-85)	9703.35 (23-7)
Tokyo SE New (4-1-68)	931.59	930.94	926.40	922.54	931.59 (11-1-85)	750.4 (4-1-84)
NETHERLANDS						
ANP CBS General (1970)	188.80	188.6	186.9	188.2	188.8 (11-1-85)	146.8 (25-7)
ANP CBS Indust (1970)	151.7	150.8	149.6	149.8	151.7 (11-1-85)	118.7 (18-6)
NORWAY						
Oslo SE (4-1-83)	311.72	312.49	308.79	307.23	312.49 (10-1-85)	221.67 (4-1-84)
SINGAPORE						
Straits Times (1966)	776.47	776.28	770.45	782.68	1071.91 (8-2)	770.45 (9-1-85)
SOUTH AFRICA						
Gold (1958)	1000.7	965.6	959.7	954.9	1099.0 (19-11)	756.7 (24-1-84)
Industrial (1958)	907.2	915.1	924.8	915.5	1105.5 (26-3)	855.5 (19-9)
SPAIN						
Madrid SE (28-12-84)	107.0	106.4	104.94	105.00	107.0 (11-1-85)	100.00 (28-12-84)
SWEDEN						
Jacobson & P (1-1-58)	1441.46	1426.88	1417.51	1409.66	1594.5 (5-3)	1302.99 (27-8)
SWITZERLAND						
Swiss BankCpn. (31-12-58)	402.0	402.9	403.5	405.5	405.5 (9-1-85)	354.5 (25-7)
WORLD						
Capital Intl. (1-1-70)	—	188.8	186.4	185.6	190.6 (5-5)	185.2 (14-12)

** Saturday January 5: Japan Nikkei-Dow 11,545.2. TSE 919.22.

Base values of all Indices are 100 except Australia All Ordinary and Metals—500, NYSE All Common—50; Standard and Poors—10; and Toronto Composite and Metals—1,000, Toronto indices based 1975 and Montreal Portfolio 4/1/83. † Excluding bonds. ‡ 400 Industrials. § 400 Industrials plus 40 Utilities. 40 Financials and 20 Transports. c Closed. (u) Unavailable.

GENERAL MOTORS ACCEPTANCE CORPORATION OF CANADA, LIMITED

Notice of Partial Redemption

To the holders of 9½% Debentures due February 1, 1986

NOTICE IS HEREBY GIVEN that pursuant to the provisions of Section 13.03 of the Indenture dated as of February 1, 1976 between General Motors Acceptance Corporation of Canada, Limited (the "Company") and Montreal Trust Company (the "Trustee"), as Trustee providing for the issue of the above-mentioned Debentures, the under-mentioned $1,605,000 (Canadian) principal amount of coupon 9½% Debentures due February 1, 1986 of the Company, each in the denomination of $1,000 (Canadian) and bearing the distinguishing prefix D:

00020	01767	03874	06874	13127	16746	17784	24011	24830	25969	30404	32116	33837	35808	45441	47498
00029	01771	03938	07142	13129	16751	17794	24017	24843	25973	30414	32128	33866	35834	45458	47514
00033	01781	03939	07145	13132	16765	18197	24023	24850	25984	30426	32145	33892	35848	45474	47539
00034	01803	03944	07151	13165	16772	18215	24029	24861	25992	30444	32160	33908	35863	45491	47568
00051	01804	03969	07164	13172	16775	18218	24034	24866	27434	30451	32161	33920	35872	45504	47583
00075	01827	03981	07172	13175	16781	18222	24035	24874	27452	30460	32202	33947	35884	45513	47619
00086	01828	03985	07173	13178	16784	18228	24040	24876	27455	30477	32223	33955	35896	45606	47640
00117	01829	03997	07312	13184	16795	18340	24055	24883	27456	30485	32241	33969	35921	45638	47661
00177	01837	04004	07317	13192	16804	18346	24061	24911	27464	30498	32270	33993	35944	45660	47671
00183	01844	04017	07537	13219	16817	18367	24066	24922	28014	30510	32294	34011	35956	45696	47693
00211	01850	04033	07560	13224	16829	18389	24068	24923	28022	30514	32309	34036	35978	45713	47718
00213	01861	04048	07578	13228	16832	18418	24075	24940	28026	30525	32321	34038	35989	45726	47739
00232	01863	04052	07681	13230	16840	18423	24082	24943	28037	30531	32328	34056	35998	45751	47761
[illegible]															
01429	03810	06319	12932	16685	17506	21829	24711	25761	30272	31571	33590	35572	45190	47186	49940
01433	03687	06335	12934	16686	17514	21841	24717	25774	30276	31594	33611	35584	45203	47211	49957
01584	03722	06544	12936	16688	17535	21845	24732	25787	30281	31705	33627	35587	45228	47239	49984
01585	03731	06548	12950	16696	17539	21852	24735	25795	30297	31718	33631	35622	45244	47275	49998
01593	03735	06552	12961	16701	17698	21861	24747	25801	30300	31750	33663	35651	45258	47308	50008
01664	03738	06561	12962	16705	17704	21873	24751	25808	30301	31771	33664	35674	45279	47341	50064
01688	03782	06569	12970	16712	17721	21878	24763	25812	30310	31785	33706	35703	45304	47347	50079
01717	03783	06570	12973	16717	17725	21884	24771	25818	30323	32025	33721	35706	45317	47381	50091
01718	03789	06585	13030	16719	17754	21891	24780	25824	30328	32038	33748	35727	45341	47403	50104
01724	03791	06587	13069	16724	17768	23238	24793	25933	30345	32049	33771	35763	45363	47407	50121
01732	03794	06594	13074	16733	17772	23254	24796	25948	30368	32063	33786	35768	45390	47433	50162
01736	03855	06606	13098	16737	17774	24001	24808	25951	30377	32086	33803	35783	45404	47458	50174
01742	03861	06850	13102	16744	17783	24003	24817	25957	30392	32103	33808	35802	45414	47482	50176
01755	03867	06872	13124	16745											

have been selected by lot by the Trustee for redemption through the operation of the sinking fund on the 1st day of February, 1985, and that each of such Debentures so selected will therefore be redeemed on the 1st day of February, 1985, in lawful money of Canada, at the principal amount thereof, upon presentation and surrender of the called Debenture, accompanied by the interest coupon payable February 1, 1986, at the option of the holder at any one of the Paying Agencies listed below. The coupon payable February 1, 1985 should be detached from the called Debenture before presentation and should be cashed by the holder in the usual way.

NOTICE IS FURTHER GIVEN that all interest on the above Debentures called for redemption shall cease to be payable from and after the said 1st day of February, 1985.

The Paying Agencies at which called Debentures may be presented for payment are:

Toronto .... Bank of Montreal (main branch)
London .... Midland Bank Limited
Frankfurt .... Deutsche Bank Aktiengesellschaft
Paris .... Crédit Lyonnaise
Brussels .... Banque Bruxelles Lambert S.A.
Luxembourg .... Banque Générale du Luxembourg S.A.
Milan and Rome .... Banca Nazionale del Lavoro
Amsterdam .... Algemene Bank Nederland N.V.
Zurich .... Swiss Credit Bank
Basel .... Swiss Bank Corporation.

Dated at Toronto this 28th day of December, 1984.

GENERAL MOTORS ACCEPTANCE CORPORATION OF CANADA, LIMITED
By: Montreal Trust Company, Trustee.

AUTHORISED UNIT TRUSTS

[illegible]

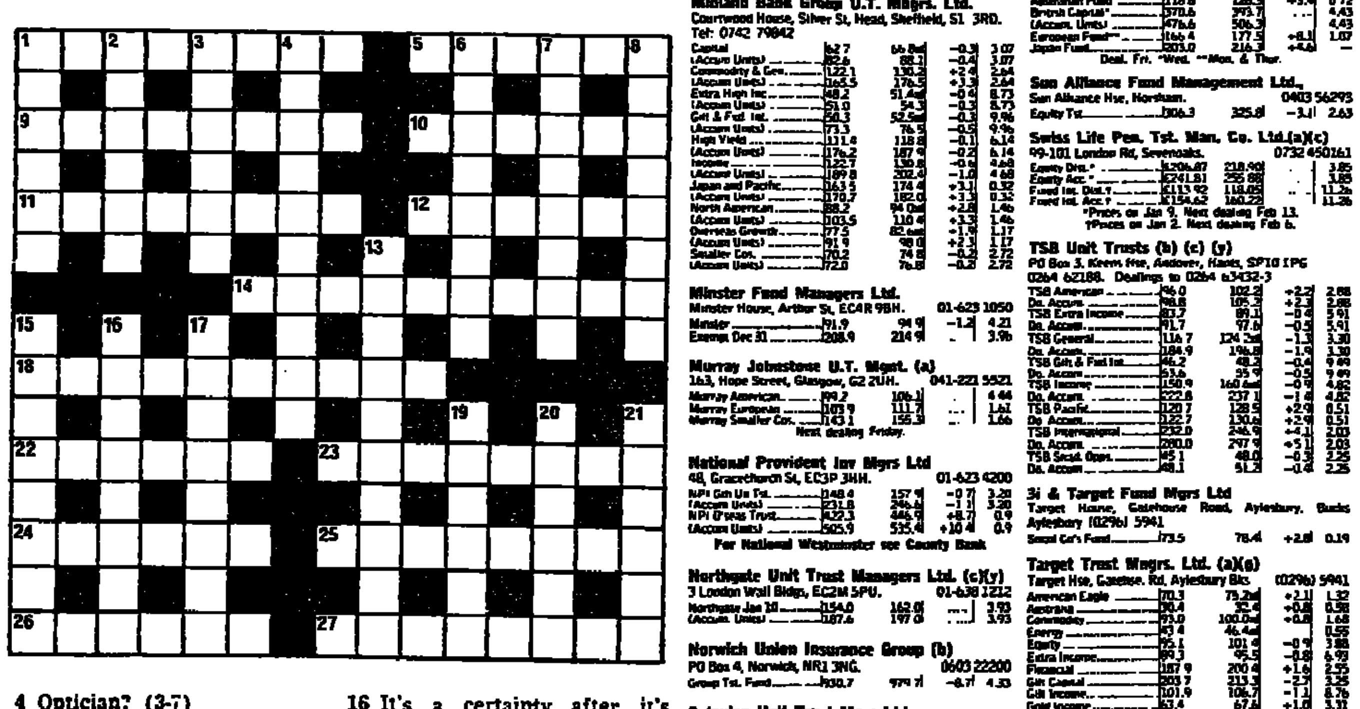
FT UNIT TRUST INFORMATION SERVICE

[illegible]

INSURANCES

[illegible]

FT CROSSWORD PUZZLE NO 5,617



ACROSS

1 He brings goods in—I'm the carrier (8)

5 To rear like a bird (6)

9 Stile end could be joined (8)

10 Put file with no end in order to raise morale (6)

11 Plant — first-class — coming back to its rightful place (8)

12 Wedding sounds like a restraint (6)

14 You need to look into here (10)

18 Study heraldry term in round circle declaration (10)

22 Remove from the eye? (6)

23 Some vehicles use this court marking (8)

24 Granted as the replacement did (6)

25 I learn pi, perhaps, as in certain school (5-3)

26 Figures or fingers? (6)

27 Loose ends and lies for the unemployed's plight (8)

DOWN

1 One church period when it was very cold (3, 3)

2 Petty friend to produce strain (6)

3 More hasty preparation for breakfast? (6)

4 Optician? (3-7)

6 Pugilists' extremities with purses producing check? (8)

7 Could he make lover die? (4-4)

8 Folded cards without Eastern obstructions (8)

13 Give weapon to our callow (initially) youth, well-protected (6-4)

15 Doomed defendant embraces right (8)

16 It's a certainty after it's bought? (2, 3, 3)

17 Enter old exchange. It's smelling (8)

19 Bird in the field? (6)

20 Tailed off to become wider (6)

21 Gentleman's revolutionary uprising is a plant (6)

The solution to last Saturday's prize puzzle will be published with names of winners next Saturday.

هكذا اصل الأصل

INSURANCE, OVERSEAS & MONEY FUNDS

OFFSHORE AND OVERSEAS

Wren Commodity Management Ltd
10 St George St. Douglas, IoM. 0624 25015

Wren Com Fd	12.7	13.2	....	3.10
Chinese Fd	58.8	61.2	....	1.70
PrecFetFd	80.3	83.6	....	8.30
VangCmdyFd	21.5	22.1	....	—
FinFuturesFd	32.4	33.8	....	—

Yamaichi Dynamic Mngt Co SA
10a Boulevard Royal, Luxembourg.

Dynamic Grth Fd	$8.78	−0.03	—

Money Market Trust Funds

	Nom	Apr	Int Cr	Notice
The Money Market Trust				
63 Qn Victoria St, EC4P 4ST.			01-236 0952	
Call Fund	9.16	9.38	6mth	Call
7-day Fund	9.19	9.42	6mth	7-day
Oppenheimer Money Management Ltd				
Call Fund	8.66	8.84	6mth	Call
66 Cannon St, EC4N 6AE			01-236 1425	
7-day Fund	8.95	9.15	6mth	Call
Mnv Mp Acc	8.50	8.78	6mth	Call
Dollar	7.60	7.12	6mth	1-day

Money Market Bank Accounts

	Nom	Apr	Int Cr	Notice
Aitken Hume				
30 City Road, EC1Y 2AY.			01-638 6070	
TreasuryAcc	9.375	9.71	Qtr	Call
MthIntChq	9.25	29.65	Mth	Call
Bank of Scotland				
38 Threadneedle St, EC2P 2EH.			01-628 8060	
Cheque Acc	9.45	9.87	Mth	Call
Barclays Prime Account				
PO Box 125, Northampton.			0604 252891	
High Int Chq	9.75	10.11	Qtr	Call
Britannia Grp of Investment Companies				
29 Finsbury Circ. EC2M 5QL.			01-555 2777	
Cater Allen	10.00	10.47	Mth	Call
Charterhouse Japhet plc				
1 Paternoster Row, EC4M 7DH.			01-248 3999	
Sterling	9.25	9.652	Mth	Call
U.S. Dollar	8.00	8.300	Mth	Call
German Marks	5.0	5.116	Mth	Call
Swiss Francs	2.0	2.018	Mth	Call
Japanese Yen	5.0	5.115	Mth	Call
Co-operative Bank				
78-80 Cornhill, EC3.			01-626 6543 Ext 464	
Under£1000	8.00	8.24	Qtr	Call
Over£1000	10.00	10.38	Qtr	Call
Dartington & Co Ltd				
Dartington, Totnes, Devon, TQ9 6JE.			0803 862271	
MnyMktAcc	9.50	9.84	Qtr	Call
Henderson/Bank of Scotland				
38 Threadneedle St, EC2P.			01-628 8060	
MyMtChqAc	9.45	9.87	Mth	Call
Lombard North Central plc				
17 Bruton St, W1A 3DH.			01-409 3434	
Notice Dep	10.00	10.25		Ret 14-day
M & G Kleinwort Benson				
91-99 New London Rd, Chelmsford.			0245 51651	
HighIntChqAc	10.12	10.65	Daily	Call
Midland Bank plc				
PO Box 2, Sheffield.			0742 20999 Ext 8738	
High Int Chq	9.30	9.74	Qtr	Call
Provincial Trust (formerly Choulartons)				
30 Ashley Rd, Altrincham, Cheshire, WA1 2DW.			061-928 9011	
Cheque Acc	9.75	10.20	Mth	Call
Save & Prosper/Robert Fleming				
28 Western Rd, Romford, RM1 3LB.			0708 66966	
HighIntBkAc	8.80	9.20	Daily	Call
Premier Acc	8.80	9.20	Daily	Call
Tyndall & Co				
29-33 Princess Victoria St, Bristol BS8 4BX.			0272 732241	
Demand Acc	9.31	9.64	Qtr	Call
Money Acc	9.125	9.41	Qtr	Chq'7
J. Henry Schroder Wagg & Co Ltd				
Enterprise House, Portsmouth.			0705 827733	
Special Acc	9.00	9.38	Mth	Call
Over £10,000	9.25	9.65	Mth	Call

NOTES—Interest rates given both as a nominal rate and an annual percentage rate adjusted for frequency of interest credit.

NOTES

Prices are in pence unless otherwise indicated and those designated $ with no prefix to U.S. dollars. Yields % (shown in last column) allow for all buying expenses. a Offered prices include all expenses. b Today's prices. c Yield based on offer price. d Estimated. g Today's opening price. h Distribution free of UK taxes. p Periodic premium insurance plans. s Single premium insurance. x Offered price includes all expenses except agent's commission. y Offered prices include all expenses if bought through managers. z Previous day's price. ¶ Guernsey gross. § Suspended. ◆ Yield before Jersey tax. † Ex-subdivision. ‡‡ Only available to charitable bodies. ○ Yield column shows annualised rates of NAV increase.

FT LONDON SHARE INFORMATION SERVICE

BRITISH FUNDS

"Shorts" (Lives up to Five Years)

Interest Due	Stock	Price £	Last xd	Yield Int.	Yield Red.
22 Aug 22 Feb	Treas. 15pc 1985	100 1/32	16.7	14.98	9.97
22 Sep 22 Mar	Exch. 12pc Cnv. '85	100 1/16	16 8	11 98	9.80
21 Nov 21 May	Treas 3pc 1985	97 5/8	15.10	3 07	10 05
15Jan 15Jul	Treas 11½pc 1985	100 ¼ xd	10.12	11.45	10.67
3 Mar 3 Sep	Treas 8¾pcCnv '85	98 11/32	30 7	8.87	10.65
22 May 22 Nov	Exch. 12¼pc 1985	101¼	16.10	12.11	10 76
25 Aug 25 Feb	Exch. 11¾pc '86	100 11/16	9.93	11.67	10.74
11Oct 11Apr	Treas. 10pcCnv 1986	98 7/8	4.9	10.11	10.94
19 Nov 19 May	Treas 3pc 1986	93½	15.10	3.32	8.20
19 Nov 19 May	Exch. 10½pc Cv '86	99 ¼	15.10	10.57	10 99
12Dec 12Jun	Treas 12pc 1986	101 1/16	5.11	11.87	11.14
10 Jan 10 Jul	Treas 8¼pc 1984-86‡‡	96¼	8.12	8 79	10.95
29 Apr 29 Oct	Exch. 14pc 1986	104 7/32	24 9	13.39	11.07
21 May 21 Nov	Exch. 2½pc 1986	89½	15 10	2.79	8.75
22Jul 22Jan	Exch. 13¾pc 1987	103¾ xd	17.12	12.77	11.13
10 Aug 10 Feb	Treas 10¼pcCv '87	98¾ xd	4.1	10.38	10.96
24Aug 24Feb	Exch 2½pc 1987	86¾	18 7	2.89	9 63
6Oct 6Apr	Exch. 10½pc 1987	98¾	3.9	10 63	11.12
1 Nov 1 May	Funding 6½pc '85-87‡‡	91 ½	25 9	7.11	10 84
12Dec 12Jun	Treas. 10pc 1987	97 5/8	5.11	10.24	11.13
14Jan 14Jly	Treas 3pc 1987	85½ xd	10.12	3.51	9 68
3May 3Nov	Treas. 12pc 1987	101¾	27.9	11.79	11 22
26 Jul 26 Jan	Treas 7¾pc 1985-88‡‡	92¼ xd	20.12	8.39	10.71
10Nov 10May	Exch 10½pc '88	97¾	4.10	10.74	11.27
14Dec 14Jne	Treas 9¾pc Cv '88	95¾	7.11	10.20	11.31
1Jan 1Jul	Transport 3pc '78-88	81 ¾	25 5	3 66	9.24
25 Apr 25 Oct	Treas. 9½pc '88	94 5/16	18.9	10.07	11.38
22 Aug 22 Feb	Treas 11½pc 1989	100	16.7	11.50	11.29
18 Oct 18 Apr	Treas 9½pc Cnv. '89	94	11.9	10 11	11.30
14Dec 14Jun	Treas 10½pc 1989	97¼	7.11	10.86	11.29
1Feb 1Aug	Exch 10pc 1989	95½ xd	27.12	10.47	11.31
29 Mar 29 Sep	Exch 11pc 1989	98½	—	11 17	11.39
15 Apr 15 Oct	Treas 5pc 1986-89	80 7/8	10 9	6.18	10.15

Five to Fifteen Years

Interest Due	Stock	Price £	Last xd	Yield Int.	Yield Red.
15 Jul 15 Jan	Treas 13pc 1990‡‡	106⅝ xd	10.12	12.19	11.22
22 Sep 22 Mar	Exch. 12½pc 1990	104⅛	16.8	12.00	11.39
15 Dec 15 Jun	Treas 8¼pc 1987-90‡‡	90½	8.11	9.19	10.77
25 Apr 25 Oct	Treas. 10pcCv 1990	96½	18 9	10.65	11 45

Over Fifteen Years

Undated

Index-Linked

INT. BANK AND O'SEAS GOVT STERLING ISSUES

CORPORATION LOANS

COM'WEALTH & AFRICAN LNS

LOANS

Building Societies

Public Board and Ind.

Financial

FOREIGN BONDS & RAILS

AMERICANS

AMERICANS—Cont.

CANADIANS

BANKS, HP & LEASING

Hire Purchase, Leasing, etc.

BEERS, WINES & SPIRITS

BEERS, WINES—Cont.

BUILDING INDUSTRY, TIMBER AND ROADS

CHEMICALS, PLASTICS

DRAPERY AND STORES

DRAPERY & STORES—Cont.

ELECTRICALS

ENGINEERING

ENGINEERING—Continued

FOOD, GROCERIES, ETC

HOTELS AND CATERERS

HOTELS—Continued

INDUSTRIALS (Miscel.)

INDUSTRIALS—Continued

[illegible]

INSURANCES

[illegible]

LEISURE

[illegible]

LEISURE—Continued

[illegible]

MOTORS, AIRCRAFT TRADES

Motors and Cycles

[illegible]

Commercial Vehicles

[illegible]

Components

[illegible]

Garages and Distributors

[illegible]

NEWSPAPERS, PUBLISHERS

[illegible]

PAPER, PRINTING ADVERTISING

[illegible]

PROPERTY

[illegible]

PROPERTY—Continued

[illegible]

SHIPPING

[illegible]

SHOES AND LEATHER

[illegible]

SOUTH AFRICANS

[illegible]

TEXTILES

[illegible]

TOBACCOS

[illegible]

TRUSTS, FINANCE, LAND

Investment Trusts

[illegible]

INVESTMENT TRUSTS—Cont.

[illegible]

Finance, Land, etc

[illegible]

OIL AND GAS

[illegible]

OVERSEAS TRADERS

[illegible]

PLANTATIONS

Rubbers, Palm Oil

[illegible]

Teas

[illegible]

MINES

Central Rand

[illegible]

Eastern Rand

[illegible]

Far West Rand

[illegible]

O.F.S.

[illegible]

Finance

[illegible]

MINES—Continued

Diamond and Platinum

[illegible]

Central African

[illegible]

Australians

[illegible]

Tins

[illegible]

Miscellaneous

—		Colby Res Corp.	78	—	—	—
Aug.	Feb.	Cons. Murch. 10c	550	16.7	†Q100c	1.4	8.3
	—	Ennex Int. Ir10p	29	—	—	—
Sept	Feb	Hampton Areas 10p	163	24.12	3.75	2.1	3.1
	—	Highwood Res	175	—	—	—
May	Aug	Homestake Mining $1	£19¾	31.10	Q20c	—	0.9
	—	McFinley Red Lake	245	—	—	—
	—	Musto Explorations	210	—	—	—
—		New Sabina Res C$1	38	—	—	—
October		Northgate C$1	275	9.77	—	—
Jan.	July	RTZ	600	29.10	†18.0	2.7	4.3
Jan	July	Do. 9¾pcLn '95-2000	£131	29.10	Q9¾%	35.4	(7.3
	—	Tara Exptn $1	£10¼	—	—	—

NOTES

Unless otherwise indicated, prices and net dividends are in pence and denominations are 25p. Estimated price/earnings ratios and covers are based on latest annual reports and accounts and, where possible, are updated on half-yearly figures. P/Es are calculated on "net" distribution basis, earnings per share being computed on profit after taxation and unrelieved ACT where applicable; bracketed figures indicate 10 per cent or more difference if calculated on "nil" distribution. Covers are based on "maximum" distribution; this compares gross dividend costs to profit after taxation, excluding exceptional profits/losses but including estimated extent of offsettable ACT. Yields are based on middle prices, are gross, adjusted to ACT of 30 per cent and allow for value of declared distribution and rights.

- ● "Tap Stock".
- * Highs and Lows marked thus have been adjusted to allow for rights issues for cash.
- † Interim since increased or resumed
- ‡ Interim since reduced, passed or deferred
- ‡‡ Tax-free to non-residents on application.
- ◆ Figures or report awaited.
- ♥ Not officially UK listed, dealings permitted under Rule 535(4)(a).
- ☩ USM, not listed on Stock Exchange and company not subjected to same degree of regulation as listed securities.
- †† Dealt in under Rule 535(3).
- # Price at time of suspension.
- ¶ Indicated dividend after pending scrip and/or rights issue. cover relates to previous dividend or forecast.
- ♦ Merger bid or reorganisation in progress.
- ♣ Not comparable
- ♠ Same interim: reduced final and/or reduced earnings indicated.
- ϕ Forecast dividend; cover on earnings updated by latest interim statement.
- I Cover allows for conversion of shares not now ranking for dividends or ranking only for restricted dividend
- ☆ Cover does not allow for shares which may also rank for dividend at a future date. No P/E ratio usually provided.
- ‖ No par value.

B.Fr. Belgian Francs. Fr. French Francs. ¢¢ Yield based on assumption Treasury Bill Rate stays unchanged until maturity of stock. a Tax free. b Figures based on prospectus or other offer estimate. c Cents. d Dividend rate paid or payable on part of capital, cover based on dividend on full capital. e Redemption yield. f Flat yield. g Assumed dividend and yield. h Assumed dividend and yield after scrip issue. j Payment from capital sources. k Kenya. m Interim higher than previous total. n Rights issue pending. q Earnings based on preliminary figures. s Dividend and yield exclude a special payment. t Indicated dividend: cover relates to previous dividend, P/E ratio based on latest annual earnings. u Forecast dividend: cover based on previous year's earnings. v Subject to local tax. x Dividend cover in excess of 100 times. y Dividend and yield based on merger terms. z Dividend and yield include a special payment: Cover does not apply to special payment. A Net dividend and yield. B Preference dividend passed or deferred. C Canadian. E Minimum tender price. F Dividend and yield based on prospectus or other official estimates for 1984-85. G Assumed dividend and yield after pending scrip and/or rights issue. H Dividend and yield based on prospectus or other official estimates for 1984. K Figures based on prospectus or official estimates for 1984. M Dividend and yield based on prospectus or other official estimates for 1985-86. N Dividend and yield based on prospectus or other official estimates for 1985. P Figures based on prospectus or other official estimates for 1983. Q Gross. T Figures assumed. Z Dividend total to date.

Abbreviations: xd ex dividend; xc ex scrip issue; xr ex rights; xa ex all; xd ex capital distribution.

REGIONAL & IRISH STOCKS

The following is a selection of Regional and Irish stocks, the latter being quoted in Irish currency

Albany Inv 20p	90	...	Arnott	145	−5
Craig & Rose £1	£111½	....	CPI Hldgs	52½	+2½
Finlay Pkg. 5p	44	.	Carroll Inds.	100	+1
Higsons Brew	95	−5	Dublin Gas	65	.....
Holt (Jos) 25p	860	−10	Hall (R. & H.)	44	.....
IoM Stm. £1	130	−3	Heiton Hldgs.	17	....
IRISH			Irish Ropes	32xd	....
Exch. 12% 1985	£99	.....	Jacob (W. & R.)	62	....
Nat. 9¾% 84/89	£84	...	TMG	72	.....
Fin. 13% 97/02	£89⅝	.....	Unidare	78	.....

OPTIONS — 3-month call rates

Industrials	p				
Allied-Lyons	15	Hanson Tst.	22	Vickers	18
BAT	30	Hawker Sidd	38		
BOC Grp.	24	Hse of Fraser	28	**Property**	
BSR	15	ICI	58	Brit Land	14
Babcock	13	'Imps'	14	Cap Counties	18
Barclays Bank	42	Jaguar	18	Land Secs	24
Beecham	38	Ladbroke	20	MEPC	30
Blue Circle	46	Legal & Gen.	42	Peachey	24
Boots	18	Lex Service	32	Samuel Props.	14
Bowaters	26	Lucas Inds.	24	Sterling Guar.	5½
Brit Aerospace	34	Marks & Spcr	10		
Brit. Telecom	7½	Midland Bk	33	**Oils**	
Brown (J.)	3	NEI	9	Brit. Oil & Min	4½
Burton Ord	32	Nat West Bk	54	Brit Petroleum	38
Cadburys	14	P & O Dfd	24	Burmah Oil	19
Comm Union	15	Plessey	20	Charterhall	6
Courtaulds	11	Polly Peck	25	Premier	6
Debenhams	19	Racal Elect	24	Shell	55
Distillers	24	RHM	10	Tricentrol	22
Dunlop	5	Rank Org Ord	24	Ultramar	22
FNFC	7	Reed Intnl	50		
Gen Accident	42	Sears	7	**Mines**	
Gen Electric	20	TI	18	Charter Cons	21
Glaxo	90	Tesco	8	Cons Gold	42
Grand Met	26	Thorn EMI	42	Lonrho	14
GUS 'A'	55	Trust Houses	12	Rio T Zinc	60
Guardian	58	Turner Newall	9		
GKN	16	Unilever	80		

A selection of Options traded is given on the London Stock Exchange Report page.

"Recent Issues" and "Rights" Page 14

CURRENCIES, MONEY and CAPITAL MARKETS

FINANCIAL FUTURES

LONDON

THREE-MONTH EURODOLLAR $1m points of 100%

	Close	High	Low	Prev
March	90.81	90.85	90.78	90.86
June	90.21	90.25	90.18	90.26
Sept	89.71	89.73	89.70	89.75
Dec	89.28	89.33	89.31	89.32
March	88.93	—	—	88.96

Est volume 4,980 (4,921)
Previous day's open int 11,053 (10,425)

THREE-MONTH STERLING £250,000 points of 100%

	Close	High	Low	Prev
March*	89.13	89.36	89.01	89.43
June*	89.12	89.28	89.03	89.35
Sept*	89.12	89.24	89.05	89.30
Dec*	89.07	89.18	89.05	89.26
March*	88.99	89.00	88.99	89.06

Est volume 3,758 (2,120)
Previous day's open int 5,571 (5,452)
*£500,000 points of 100%

20-YEAR 12% NOTIONAL GILT £50,000 32nds of 100%

	Close	High	Low	Prev
March	105-22	106-00	105-16	106-08
June	105-07	105-11	104-31	105-22
Sept	108-00	—	—	108-19
Dec	107-22	—	—	108-09
March	107-12	—	—	107-31

Est volume 5,555 (4,656)
Previous day's open int 4,317 (3,720)
Basis quote (clean cash price of 13¼% Treasury 2003 less equivalent price of near futures contract) 10 to 20 (32nds)

STERLING £25,000 $ per £

	Close	High	Low	Prev
March	1.1253	1.1265	1.1200	1.1290
June	1.1206	1.1215	1.1140	1.1254
Sept	1.1181	—	—	1.1234

Est volume 209 (1,480)
Previous day's open int 4,288 (4,387)

DEUTSCHE MARKS DM 125,000 $ per DM

	Close	High	Low	Prev
March	0.3187	0.3187	0.3180	0.3184

Est volume 13 (20)
Previous day's open int 202 (202)

SWISS FRANCS SwFr 125,000 $ per SwFr

	Close	High	Low	Prev
March	0.3803	—	—	0.3800

Volume nil (nil)
Previous day's open int 113 (113)

JAPANESE YEN Y12.5m $ per Y100

	Close	High	Low	Prev
March	0.3956	0.3957	0.3956	0.3947

Est volume 1 (2)
Previous day's open int 119 (119)

FT-SE 100 INDEX £25 per full index point

	Close	High	Low	Prev
March	124.90	126.90	124.35	125.90
June	125.00	125.00	124.70	126.00
Sept	126.00	—	—	126.00

Est volume 556 (67)
Previous day's open int 848 (843)

U.S. TREASURY BONDS 8% $100,000 32nds of 100%

	Close	High	Low	Prev
March	71-02	71-15	70-30	71-09
June	70-09	—	—	70-17

Est volume 1,219 (1,787)
Previous day's open int 1,608 (1,457)

CHICAGO

U.S. TREASURY BONDS (CBT) $100,000 32nds of 100%

	Close	High	Low	Prev
March	70-25	71-16	70-21	71-14
June	70-00	70-24	69-29	70-21
Sept	69-10	70-01	69-08	69-31
Dec	68-23	69-14	68-20	69-13
March	68-07	68-29	68-05	68-29
June	67-25	68-03	67-23	68-15
Sept	67-12	67-23	67-10	68-03
Dec	67-01	—	—	67-24
March	66-23	66-23	66-21	67-14
June	66-14	—	—	67-05

U.S. TREASURY BILLS (IMM) $1m points of 100%

	Close	High	Low	Prev
March	91.82	91.94	91.80	91.94
June	91.31	91.44	91.29	91.45
Sept	90.84	90.77	90.80	90.99
Dec	90.45	90.61	90.45	90.62
March	90.13	90.24	90.13	90.30
June	89.86	90.00	89.86	90.02
Sept	89.62	—	89.63	89.78
Dec	89.40	—	89.41	89.56

CERT. DEPOSIT (IMM) $1m points of 100%

	Close	High	Low	Prev
March	91.09	91.20	91.08	91.24
June	90.47	90.58	90.46	90.64
Sept	—	—	—	—
Dec	89.53	89.63	89.53	89.70

THREE-MONTH EURODOLLAR (IMM) $1m points of 100%

	Close	High	Low	Prev
March	90.71	90.85	90.69	90.86
June	90.09	90.24	90.07	90.26
Sept	89.57	89.72	89.55	89.75
Dec	89.14	89.29	89.12	89.32
March	88.79	88.94	88.77	88.98
June	88.48	88.62	88.47	88.68
Sept	88.20	88.31	88.18	88.39

STERLING (IMM) $s per £

	Close	High	Low	Prev
March	1.1160	1.1270	1.1150	1.1280
June	1.1120	1.1220	1.1105	1.1255
Sept	1.1100	1.1205	1.1110	1.1235
Dec	—	—	—	1.1520

GNMA (CBT) 8% $100,000 32nds of 100%

	Close	High	Low	Prev
March	69-06	69-13	69-01	69-14
June	68-13	68-16	68-10	68-21
Sept	67-25	—	—	68-01
Dec	67-08	—	—	67-16
June	66-11	—	—	66-19
Sept	65-31	—	—	66-07

WEEKLY CHANGE IN WORLD INTEREST RATES

	Jan. 11	change
LONDON		
Base rates	10½	+1
7 day interbank	9 11/16	+⅝
3mth interbank	10 7/16	+¼
Treasury Bill Tender	10.1017%	+0.9279
Band 1 Bills	9½	Unch'd
Band 2 Bills	10⅜	+1
Band 3 Bills	10¼	+1
3 Mth. Treasury Bills	10 1/16	+ 15/16
1 Mth. Bank Bills	10⅝	+ 13/16
3 Mth. Bank Bills	10 11/32	+⅛
TOKYO		
One month Bills	6.21875	Unch'd
Three month Bills	6.28125	Unch'd
BRUSSELS		
One month	10¾	Unch'd
Three month	10¾	Unch'd
AMSTERDAM		
One month	5¾	Unch'd
Three month	5¾	Unch'd
NEW YORK		
Prime rates	10¾	Unch'd
Federal funds	8 ⅛	—½
3 Mth. Treasury Bills	7.74	—0.05
6 Mth. Treasury Bills	8.01	—0.12
3 Mth. C D	8.20	—0.05
FRANKFURT		
Lombard	5.50	Unch'd
One Mth. Interbank	5.725	—0.075
Three month	5.725	—0.05
PARIS		
Intervention Rate	10⅛	—⅛
One Mth. Interbank	10½	—1/16
Three month	10 1/16	—¼
MILAN		
One month	15 1/16	Unch'd
Three month	15 11/16	—1/16
DUBLIN		
One month	14⅞	Unch'd
Three month	14⅞	Unch'd

London—band 1 bills mature in up to 14 days, band 2 bills 15 to 33 days, and band 3 bills 34 to 63 days. Rates quoted represent Bank of England buying or selling rates with the money market. In other centres rates are generally deposit rates in the domestic money market and their respective changes during the week. Band 4 bills 10⅝.

FOREIGN EXCHANGES

Dismal week for sterling

BY COLIN MILLHAM

Sterling's performance matched the London weather last week. It was cold and dismal as foreign exchange dealers regarded the pound in a very frosty light.

Even the cold of the European winter, giving North Sea oil prices a slightly firmer tone, failed to put any sort of floor under the pound, while the rise to a uniform 10½ per cent in clearing bank base rates was regarded as too little and too late to prevent the currency from remaining out of favour.

By the close on Friday oil prices were aagin giving cause for concern, and sterling remained very unpoular against all major currencies, including the dollar.

The pound fell to DM 3.5475 against the D-Mark, the lowest level since March 1983, but at that time sterling was around $1.45 in terms fo the dollar. It has since slumped to a record trading low of $1.1220, and finished on Friday at an all-time closing low of $1.1245, a fall of 3 cents on the week.

Sterling's predicament was not helped by the stabilisation of the D-Mark against the dollar. Continued fear of intervention by the Bundesbank was a factor preventing the dollar from consolidating above DM 3.18 .This meant the dollar also failed to hold the higher ground against the other members of the European Monetary System, leaving a non-EMS currency such as sterling a relatively easy target for attack.

The dollar's failure to move above DM 3.18 turned attention towards the pound, after the U.S. currency had touched a 12-year high against the D-Mark on Monday, a nine-year peak against the Swiss franc, and record levels in terms of the French franc, Italian lira and several other currencies.

On Friday morning dealers were again talking in terms of parity with the dollar in a relatively short time, and the base rate increase seems to have made little difference to the immediate prospects.

STERLING EXCHANGE RATE INDEX (Bank of England)

	Jan 12	Previous
8.30 am	71.3	72.2
9.00 am	71.3	72.2
10.00 am	71.4	72.2
11.00 am	71.1	72.1
Noon	71.1	73.0
1.00 pm	71.2	71.7
2.00 pm	71.2	71.8
3.00 pm	71.2	71.7
4.00 pm	71.3	71.6

£ in New York

	January 11	Prev. close
£ spot	$1.1180-1190	$1.1260-1.1280
1 month	0.24-0.22 pm	0.17-0.16 pm
3 months	0.65-0.59 pm	0.50-0.46 pm
12 months	1.45-1.35 pm	0.96-0.86 pm

Forward premiums and discounts apply to the U.S. dollar.

FORWARD RATES AGAINST STERLING

	Spot	1 month	3 month	6 month	12 month
Dollar	1.1245	1.1223	1.1182	1.1145	1.1115
D-Mark	3.5475	3.5327	3.5043	3.4634	3.4327
French Franc	10.8450	10.8464	10.8476	10.8513	10.8679
Swiss Franc	2.97	2.9551	2.9258	2.8857	2.8061
Japanese Yen	285.50	284.36	282.40	279.34	273.35

POUND SPOT—FORWARD AGAINST POUND

Jan 11	Day's spread	Close	One month	% p.a.	Three months	% p.a.
U S.	1.1220-1.1325	1.1240-1.1250	0.24-0.21c pm	2.40	0.66-0.61 pm	2.26
Canada	1.4850-1.4940	1.4915-1.4935	0.13-0.05c pm	0.72	0.43-0.32 pm	1.00
Nethlnd.	3.98½-4.02¾	4.00-4.01	1⅝-1⅜c pm	4.68	4⅝-4⅜ pm	4.49
Belgium	70.95-71.45	70 95-71.05	par-5c dis	−0.42	1 pm-9 dis	−0.22
Denmark	12.67-12.76½	12.67-12.68	1⅞-2⅞ore dis	−2.25	5⅛-6⅞ dis	−1.91
Ireland	1.1380-1.1440	1.1415-1.1425	0.33-0.43p dis	−3.99	0.83-1.14dis	−3.45
W. Ger.	3.53½-3.56¾	3.54½-3.55¼	1⅜-1⅛pf pm	4.33	3⅞-3⅝ pm	4.23
Portugal	191.25-194.75	192.65-194.65	245-570c dis	−25.25	695-1665dis	−24.37
Spain	196.20-197.50	196.65-197.15	40-60c dis	−3.05	115-140 dis	−2.59
Italy	2,179¾-2,195½	2,183½-2,184½	7-10lire dis	−4.67	20-24 dis	−4.03
Norway	10.27⅞-10 34¼	10.28-10.29	2⅛-2⅞ore dis	−2.89	6½-7⅛ dis	−2.67
France	10.83¾-10.92½	10.84-10.85	par-⅝c dis	−0.35	⅛-1⅛ dis	−0.23
Sweden	10.17⅞-10.23¾	10.17¾-10.18¾	⅝-1¼ore dis	−1.10	2⅛-3 dis	−1.06
Japan	285-288⅛	285-286	1.15-1.05y pm	4.62	3.12-2.98 pm	4.28
Austria	24.90-25.10	24.91-24.96	6⅞-5⅛gro pm	2.98	19½-16½ pm	2.88
Switz.	2.96½-2.99	2.96½-2.97½	1⅝-1⅛c pm	5.81	4½-4 pm	5.84

Belgian rate is for convertible francs. Financial franc 71.10-71.20. Six-month forward dollar 1.03-0.98c pm. 12-month 1.35-1.25c pm.

BANK OF ENGLAND TREASURY BILL TENDER

	Jan. 11	Jan. 4		Jan.11	Jan. 4
Bills on offer	£100m	£100m	Top Accepted rate of discount	10.1077%	9.1859%
Total of applications	£255.55m	£379m	Average rate of discount	10.1017%	9.1739%
Total allocated	£100m	£100m	Average yield	10.35%	9.39%
Minimum accepted bid	£97.48	£97.71*	Amount on offer at next tender	£100m	£100m
Allotment at minimum level	90%	100%			

* 91-day bills: 92-day bills £97.685

DOLLAR SPOT—FORWARD AGAINST DOLLAR

Jan 11	Day's spread	Close	One month	% p.a.	Three months	% p.a.
UK†	1.1220-1.1325	1.1240-1.1250	0.24-0.21c pm	2.40	0.66-0.61 pm	2.26
Ireland†	0.9875-0.9930	0.9880-0.9890	0.55-0.50c pm	6.36	1.50-1.30 pm	5.65
Canada	1.3200-1.3213	1.3208-1.3213	0.17-0.20c dis	−1.68	0.40-0.43dis	−1.26
Nethlnd.	3.5375-3.5710	3.5540-3.5650	0.70-0.67c pm	2.37	2.17-2.14 pm	2.43
Belgium	62.92-63.30	63.00-63.10	9-10c dis	−1.80	21-23 dis	−1.39
Denmark	11.23⅞-11.34	11.25½-11.26	0.31-0.36ore dis	−0.36	0.87-0.93dis	−0.32
W. Ger.	3.1340-3.1620	3.1525-3.1535	0.71-0.66pf pm	2.62	2.13-2.08 pm	2.68
Portugal	170¾-172¼	171¼-172¼	250-500c dis	−26.20	700-1450dis	−25.04
Spain	173.90-174.87	174.30-174.45	68-78c dis	−5.03	185-200 dis	−4.42
Italy	1,933½-1,945	1,939-1,940	10½-11lire dis	−6.66	28¾-29 dis	−5.93
Norway	9.10-9.16½	9.12¼-9.12¾	3.45-3.95ore dis	−4.87	10-10½ dis	−4.50
France	9.63-9.68¾	9.66½-9.67	1.90-2.00c dis	−2.43	5.20-5.50dis	−2.22
Sweden	9.03-9.07¼	9.03¾-9.03¾	2-2⅞ore dis	−2.99	6.35-6.85dis	−2.92
Japan	253.30-253.90	253.70-253.80	0.47-0.43y pm	2.13	1.35-1.30 pm	2.09
Austria	22.02¾-22.16½	22.13-22.15	2¾-1½gro pm	1.02	7-6 pm	1.09
Switz.	2.6310-2.6500	2.6425-2.6435	0.79-0.73c pm	3.44	2.43-2.37 pm	3.62

† UK and Ireland are quoted in U.S. currency. Forward premiums and discounts apply to the U.S. dollar and not to the individual currency. Belgian rate is for convertible francs. Financial franc 63.20-63.30.

OTHER CURRENCIES

Jan. 11	£	$		£ Note Rates
Argentina Peso	216.39-216.76	191.65-191.70	Austria	24.90-25.20
Australia Dollar	1.3725-1.3745	1.2160-1.2165	Belgium	71.30-72.00
Brazil Cruzeiro	3,646.67-3,668.00	3,228-3,244	Denmark	12.66-12.76
Finland Markka	7.4450-7.4740	6.6020-6.6040	France	10.86-10.96
Greek Drachma	143.98-146.88	127.66-130.24	Germany	3.54½-3.57½
HongKong Dollar	8.7955-8.8105	7.7975-7.8005	Italy	2160-2220
Iran Rial	107.50*	94.00*	Japan	285-290
KuwaitDinar KD	0.34420-0.34480	0.30505-0.30525	Netherlands	4.00¾-4.04¾
Luxembourg Fr.	70.95-71.05	63.00-63.10	Norway	10.27-10.73
Malaysia Dollar	2.7957-2.8010	2.4785-2.4800	Portugal	192-211
New Zealand Dlr.	2.3885-2.3935	2.1155-2.1185	Spain	193¾-203½
Saudi Arab Riyal	4.0420-4.0470	3.5820-3.5830	Sweden	10.16-10.26
Singapore Dollar	2.4760-2.4810	2.1950-2.1965	Switzerland	2.97½-3.00½
Sth African Rand	2.4470-2.4595	2.1690-2.1785	United States	1.11½-1.13½
U.A.E. Dirham	4.1310-4.1360	3.6720-3.6730	Yugoslavia	278-298

* Selling rate.

CURRENCY MOVEMENTS

Jan. 11	Bank of England Index	Morgan Guaranty Changes%
Sterling	71.3	−19.5
U.S. dollar	146.6	+31.7
Canadian dollar	91.0	−2.9
Austrian schilling	110.5	+5.6
Belgian franc	88.9	−10.0
Danish Kroner	76.6	−4.6
Deutsche mark	120.5	+6.4
Swiss franc	137.1	+8.0
Guilder	110.3	+3.3
French franc	63.6	−16.2
Lira	46.8	−13.6
Yen	154.2	+10.6

Morgan Guaranty changes: average 1980-1982=100. Bank of England Index (base average 1975=100).

CURRENCY RATES

Jan. 11	Bank rate %	Special Drawing Rights	Europ'n. Currency Unit
Sterling	—	0.887846	0.626290
U.S. $	8	0.976240	0.705928
Canadian $	9.74	*	0.932046
Austria Sch.	4½	21.6276	15.5917
Belgian Fr.	11	6.4543	44.5166
Danish Kr.	7	11.0296	7.94480
Dmark	4½	3.07789	2.22054
Guilder	5	3.45784	2.50675
French Fr.	9½	9.41388	6.80489
Lira	15½	1891.47	1366.84
Yen	5	248.648	178.892
Norway Kr.	8	8.92967	6.43821
Span'h Pta	½	170.352	122.991
Swedish K.	9	8.84181	6.37692
Swiss Fr	4	2.58460	1.86092
Greek Dr'ch	20½	125.740	90.6657
Irish Punt	12¾	N/A	0.712742

*C$/SDR rate for January 10: 1.29148.

EMS EUROPEAN CURRENCY UNIT RATES

	Ecu central rates	Currency amounts against Ecu January 11	% change from central rate	% change adjusted for divergence	Divergence limit %
Belgian Franc	44.9008	44.5166	−0.86	+0.11	±1.5428
Danish Krone	8.14104	7.94480	−2.41	−1.44	±1.6421
German D-Mark	2.24184	2.22054	−0.95	+0.02	±1.1463
French Franc	6.87456	6.80489	−1.01	−0.04	±1.3659
Dutch Guilder	2.52595	2.50675	−0.76	+0.21	±1.5165
Irish Punt	0.72569	0.712742	−1.78	−0.81	±1.6671
Italian Lira	1403.49	1366.84	−2.61	−2.32	±4.0511

Changes are for Ecu, therefore positive change denotes a weak currency. Adjustment calculated by Financial Times.

EXCHANGE CROSS RATES

Jan. 11	Pound St'rling	U.S. Dollar	Deutsche m'k	J'panese Yen	French Franc	Swiss Franc	Dutch Guild	Italian Lira	Canada Dollar	Belgian Frank
Pound Sterling	1.	1.125	3.548	285.5	10.85	2.970	4.005	2184.	1.493	71.00
U.S. Dollar	0.889	1.	3.153	253.8	9.660	2.643	3.555	1940.	1.327	63.05
Deutschemark	0.282	0.317	1.	80.48	3.057	0.837	1.129	615.6	0.421	20.01
Japanese Yen 1,000	3.503	3.939	12.43	1000.	37.99	10.40	14.03	7650.	5.228	248.7
French Franc 10	0.922	1.037	3.271	263.3	10.	2.739	3.693	2014.	1.376	65.47
Swiss Franc	0.337	0.379	1.194	96.13	3.652	1.	1.348	735.4	0.503	23.91
Dutch Guilder	0.250	0.281	0.886	71.29	2.708	0.742	1.	545.3	0.373	17.73
Italian Lira 1,000	0.458	0.515	1.624	130.7	4.966	1.360	1.834	1000.	0.683	32.51
Canadian Dollar	0.670	0.753	2.377	191.3	7.266	1.990	2.683	1463	1.	47.57
Belgian Franc 100	1.408	1.584	4.996	402.1	16.27	4.183	5.641	3076.	2.102	100.

EURO-CURRENCY INTEREST RATES (Market closing rates)

Jan. 11	Sterling	U.S. Dollar	Canadian Dollar	Dutch Guilder	Swiss Franc	D-mark	French Franc	Italian Lira	Belgian Franc Conv.	Belgian Franc Fin.	Yen	Danish Krone
Short term	10¼-10½	8 5/16-8 7/16	9½-10⅛	5¾-5⅞	2-2⅛	5 1/16-5 3/16	10 1/16-10⅜	13⅛-14⅛	10¼-10¾	[illegible]	[illegible]	[illegible]
7 days' notice	10⅜-10⅝	8⅛-8 5/16	9⅞-10⅛	5¼-5⅞	2⅛-2¾	5⅛-5⅜	10 1/16-10⅜	14⅝-14⅝	10¼-10¾	[illegible]	[illegible]	[illegible]
Month	10⅝-10¾	8⅛-8¼	9-9¾	5¾-5⅞	4 3/16-4 5/16	5 3/16-5 5/16	10 1/16-10⅜	14½-15	10⅜-10⅞	[illegible]	[illegible]	[illegible]
Three months	10⅝-10¾	8 5/16-8⅜	9-9¾	5 11/16-5 13/16	4 3/16-4 5/16	5 1/16-5 3/16	10 7/16-10 11/16	14¼-14¾	10¼-10¾	[illegible]	[illegible]	[illegible]
Six months	10¾-10⅞	8 11/16-8 13/16	9¾-9 11/16	5⅞-6	4¾-4⅞	5 1/16-5 3/16	10¾-10⅞	14¼-14⅝	10¼-10¾	10⅝-10⅞	6 1/16-6¼	11⅛-12
One year	10⅞-11	9 3/16-9 5/16	10 1/16-10¼	6-6⅛	4 5/16-5 1/16	5¾-5⅞	11⅛-11⅜	14⅜-14¾	10½-11	10⅝-10⅞	6⅛-6¼	11⅝-12⅛

Asian $ (closing rates in Singapore): Short-term 8 5/16-8 3/16 per cent; seven days 8⅛-8¼ per cent; one month 8⅛-8¼ per cent; three months 8 5/16-8 7/16 per cent; six months 8 11/16-8 13/16 per cent; one year 9 3/16-9 5/16 per cent. Long-term Eurodollars: two years 10⅜-10⅝ per cent; three years 11-11¼ per cent; four years 11¼-11½ per cent; five years 11⅜-11⅞ per cent nominal rates. Short-term rates are call for U.S. dollars and Japanese yen; others two days' notice.

MONEY MARKETS

Doubts continue about rates

UK clearing banks' base lending rate 10½ per cent since January 11.

... It was a very uncertain week on the London money market, where the good UK money supply figures did nothing in the end to prevent higher interest rates. A fall of ½ per cent in sterling M3 for the month to mid-December was towards the lower end of an expected range of anywhere between a fall of 1 per cent and a rise of 1 per cent, with the figure still distorted by the British Telecom share issue.

There was also a growing fear that bank lending to the private sector has been far too high, and that money supply has been kept under apparent control only by large sales of gilt-edged stock, possibly meaning it will prove difficult to keep inflation at its present low level.

Interest rates were firm at the beginning of the week ahead of the money supply figures, but then fell back before the continued weakness of the pound put sufficient pressure on money market rates to bring about a rise to 10½ per cent in base rates on Friday.

Whether this is high enough to satisfy the market is another matter. Before it appeared that sterling might be heading down to parity with the dollar, it was assumed the authorities were not prepared to sanction an increase in lending rates in defence of the pound, but would act only on grounds of monetary control.

The market became increasingly reluctant to trade at existing levels however, and it became virtually one-way business, with the discount houses selling as much paper as possible to the Bank of England at rates which were clearly regarded as unrealistic.

Apart from the normal day-to-day purchases of bills outright the Bank of England also bought some bills on Thursday and Friday for resale to the market tomorrow. Very short terms on these agreements were regarded favourably by the market, and on Thursday at least helped to kep the market calm, but it was largely a matter of straight monetary management.

Tomororw should be a very comfortable day when up to £2bn is available through repurchase agreements on gilts, to ease the market through a period of seasonal shortages caused by revenue payments to the Exchequer.

The current situation, and the level of interest rates may not be regarded as satisfactory, however, with dealers talking about still higher rates before buyers of paper return to the market.

MONEY RATES

Jan. 11	Frankfurt	Paris	Zurich	Amst'dam	Tokyo	Milan	Brussels	Dublin
Overnight	5.40-5.50	10⅛	2⅛-2⅜	5¾-5 13/16	6.09375	15⅝-16	9.80	13⅞-14
One month	5.65-5.80	10 1/16-10 3/16	4 3/16-4 5/16	5 11/16-5 13/16	6.21875	15½-15⅞	10 1/16-10 3/16	14¾-15
Two months	5.55-5.70	10 1/16-10 3/16	—	—	—	—	—	14¾-15
Three months	5.65-5.80	10⅜-10½	4⅝-4¾	5¾-5 13/16	6.28125	15⅝-16	10⅜-10¾	14¾-15
Six months	5.65-5.80	10¼-10⅜	—	5 13/16-5⅞	—	—	10⅝-10⅞	14½-14¾
Lombard	6.5	—	—	—	—	—	—	—
Intervention	—	10⅛	—	5¾	—	—	—	—

LONDON MONEY RATES — Discount Houses Deposit and Bill Rates

Jan. 11 1985	Sterling Certificate of deposit	Interbank	Local Authority deposits	Company Deposits	Market Deposits	Treasury (Buy)	Treasury (Sell)	Eligible Bank (Buy)	Eligible Bank (Sell)	Fine Trade (Buy)
Overnight	—	8-11½	9-10	9¼-10½	8½-10	—	—	—	—	—
2 days notice	—	—	9¼-10¼	—	—	—	—	—	—	—
7 days or	—	—	—	—	—	—	—	—	—	—
7 days notice	—	9-10⅝	9¼-9½	9½-9⅞	9⅛	—	—	—	—	—
One month	10⅝-10½	9⅞-10¾	10¼-10⅝	10-10⅞	10	10⅝	10⅛	10⅝	10	11
Two months	10 7/16-10 5/16	10-10⅝	10⅝	10⅞-11	9⅞	10⅜	10 1/16	10⅜	10 3/16	10⅞
Three months	10 11/16-10 9/16	10¼-10⅞	10⅝	10⅞-11	9¾	10 1/16	9⅞	10⅜	10 5/16	10⅞
Six months	10 11/16-10 9/16	10½-10⅞	10¾	—	—	—	—	10 7/16	10⅛	10⅞
Nine months	10⅞-10¾	10 9/16-10 11/16	—	—	—	—	—	—	—	—
One year	10⅞-10¾	10⅝-10 11/16	10¾	—	—	—	—	—	—	—

	Local Auth. negotiable bonds	Local Authority Deposits	Finance House Deposits	$ Cert of Deposits	SDR Linked Deposits	ECU Linked Deposits
One month	11⅛-10¾	—	10 11/16	8.1-8.2	7⅝-7⅞	9 3/16-9⅛
Two months	11⅛-10¾	—	10 11/16	8.2-8.3	7¾-8	9 5/16-9½
Three months	11⅛-10¾	—	10 11/16	8.25-8.35	7 13/16-8 1/16	9⅜-9 9/16
Six months	11-10⅝	—	10¾	8.65-8.75	8⅛-8⅜	9⅜-9 9/16
Nine months	11-10⅝	—	10 13/16	9.0-9.2	—	—
One year	11-10⅝	—	10⅞	9.4-9.6	8⅝-8⅞	9⅝-9 13/16
Two years	—	11¼	—	—	—	—
Three years	—	11½	—	—	—	—
Four years	—	11½	—	—	—	—
Five years	—	11½	—	—	—	—

ECGD Fixed Rate Export Finance IV: Average Rate of Interest period December 5 1984 to January 1 1985 (inclusive): 9.913 per cent. Local authorities and finance houses seven days' notice, others seven days' fixed. Finance Houses Base Rate (published by the Finance Houses Association): 10 per cent from January 1 1985. London and Scottish Clearing Bank Rates for lending 10½ per cent. London Deposit Rates for sums at seven days' notice 7⅛ per cent. Treasury Bills: Average tender rates of discount 10.1017 per cent. Certificates of Tax Deposit (Series 6): Deposit £100,000 and over held under one month 9¾ per cent; one-three months 10 per cent; three-six months 10¼ per cent; six-nine months 10½ per cent; nine-12 months 10½ per cent. Under £100,000 9½ per cent from January. Deposits held under Series 8 10 per cent. The rate for all deposits withdrawn for cash 7 per cent.

FT LONDON INTERBANK FIXING

(11.00 a.m. January 11)

3 months U.S. dollars	
bid 8 5/16	offer 8 7/16

6 months U.S. dollars	
bid 8 13/16	offer 8 15/16

The fixing rates are the arithmetic means, rounded to the nearest one sixteenth, of the bid and offered rates for $10m quoted by the market to five reference banks at 11 am each working day. The banks are National Westminster Bank, Bank of Tokyo, Deutsche Bank, Banque Nationale de Paris and Morgan Guaranty Trust.

MONEY RATES

NEW YORK (4 pm)

Prime rate	10¾
Broker loan rate	9-10¾
Fed. funds	8 5/16
Fed. funds at intervention	8 5/16

Treasury Bills

One month	7.45
Two month	7.60
Three month	7.75
Six month	7.95
One year	8.35

Treasury Bonds

Two year	99 27/32
Three year	101⅛
Four year	99 9/32
Five year	99¾
Seven year	100⅜
10 year	100 7/32
20 year	100 4/32

SECTION III

FINANCIAL TIMES SURVEY

International Telecommunications

The once-traditional structure of the worldwide telecommunications sector is now being shaken to its foundations by a confluence of economic, technological and political forces.

Year of dramatic upheavals

BY GUY DE JONQUIERES

THERE CAN be few years in the history of telecommunications which have seen as many dramatic upheavals as 1984. In the past 12 months change has been piled upon change in a dizzying rush of events which is reshaping large parts of the industry worldwide.

A brief, and by no means exhaustive, list tells the story:

● **January:** American Telephone and Telegraph is broken up in the largest corporate divestiture in history. Its Bell System local telephone companies are organised into seven, independent, regional groups.

● **March:** The West German government announces plans to create an official committee to *examine the country's long-term* telecommunications strategy and the operations of its national Post Office, the Bundespost.

● **July:** Standard Telephones and Cables of Britain, the world leader in submarine cables, bids for ICL, the largest U.K.-owned computer company. STC says that the merger will equip it to tackle emerging markets created by the convergence of computing and communications.

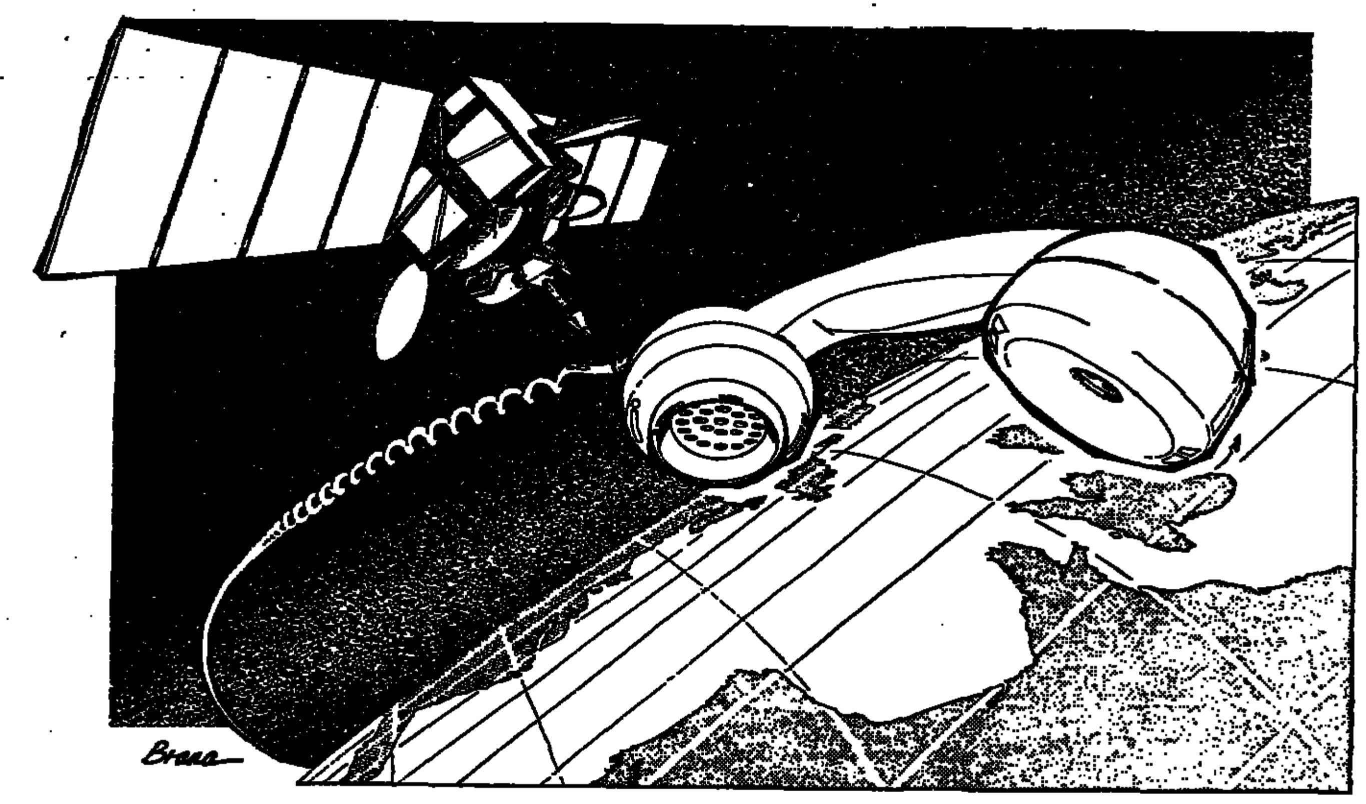
● **October:** MCI and GTE Sprint, two U.S. long-distance telecommunications carriers, trigger a transatlantic price war *by announcing plans to start* low-cost services to Europe, challenging AT&T's international monopoly. AT&T responds by cutting transatlantic tariffs by 29 per cent.

British Government rejects as anti-competitive a proposal by British Telecom and IBM of the U.S., the dominant computer manufacturer, to launch jointly an electronic informa*tion network.*

● **November:** Just over half of British Telecom is sold to investors for almost £4bn in the world's largest stock market flotation.

IBM wins U.S. Justice Department approval to take full control of Rolm, the leading U.S. supplier of digital private branch exchanges (PBXs).

● **December:** Japanese Parliament (Diet) approves plans to open its national telecommunications market to competition and sell shares in its domestic monopoly carrier, Nippon Tele*graph and Telephone, to the* public.



These developments reflect in different ways a confluence of economic, technological and political forces which are shaking the traditional structure of *telecommunications to its foun*dations and erasing the rigid demarcation lines which have long kept it a separate and self-contained industry.

In almost every country, telecommunications was until quite recently deemed to be first and foremost a public service. There was a widespread consensus that, because the planning and operation of public networks involved sizeable economies of scale, considerations of efficiency made the industry a "natural" monopoly, to be entrusted to a single carrier.

*The goal of universal tele*phone service—provided on the same terms everywhere—coupled with the desirability of attracting as many subscribers as possible, led to the emergence of pricing structures *and practices based on social* objectives rather than strictly commercial ones.

Investments

An elaborate system of cross-subsidies grew up, whereby profits from high-volume activities with low-fixed costs, such as long-distance calls, were used to keep down tariffs for unprofitable businesses such as residential service. Investments were based on engineering criteria rather than the commercial return they were likely to generate.

A series of hammer blows is now chipping away at this comfortable, predictable world. The convergence of computing and communications around microelectronics is changing the *whole nature of the industry's* business. The emergence of digital communications systems is erasing the distinction between voice and data traffic and spurring the development of "value added" services which combine the transmission, processing and storage of information.

The application of new technologies is turning the industry's economics upside down. Some activities which used to require huge capital investment costs have become dramatically cheaper, lowering the economic barriers to market entry which have traditionally underpinned monopoly.

Rapid advances in satellite technology have made it possible to establish quickly long-haul, broadband communi*cations links at costs which are* independent of distance. Techniques such as microwave radio, cellular mobile telephony and cable television offer an increasingly economic means of bypassing local telephone networks.

On the other hand, some costs which were traditionally relatively low, have started to soar. The shift from mechanical to computerised public exchanges has created a need for vast amounts of expensive specialised software. The investment to develop a new generation of digital exchanges is close to $1bn—requiring sales totalling as much as $14bn to ensure a profit.

As a consequence, public network operators worldwide are becoming more cost-conscious and turning to practices such as competitive bidding and multiple sourcing for large equipment orders. That in turn is putting more pressure on their suppliers, particularly in Europe, where the equipment industry is starting to look seriously overcrowded.

The U.S. has responded to these developments by adopting policies of sweeping deregulation and restructuring which are *explicitly intended to encourage* more vigorous competition. In the past few years some U.S markets, notably long-distance services, have become a free-for-all, as new entrants jostle for position.

A heavy price has been paid for the break-up of the Bell System in terms of higher local telephone charges, service dislocation and general confusion among customers. However, on the other hand, customers have benefited from lower long-distance tariffs, declining equipment prices and a rapidly expanding choice of products and services.

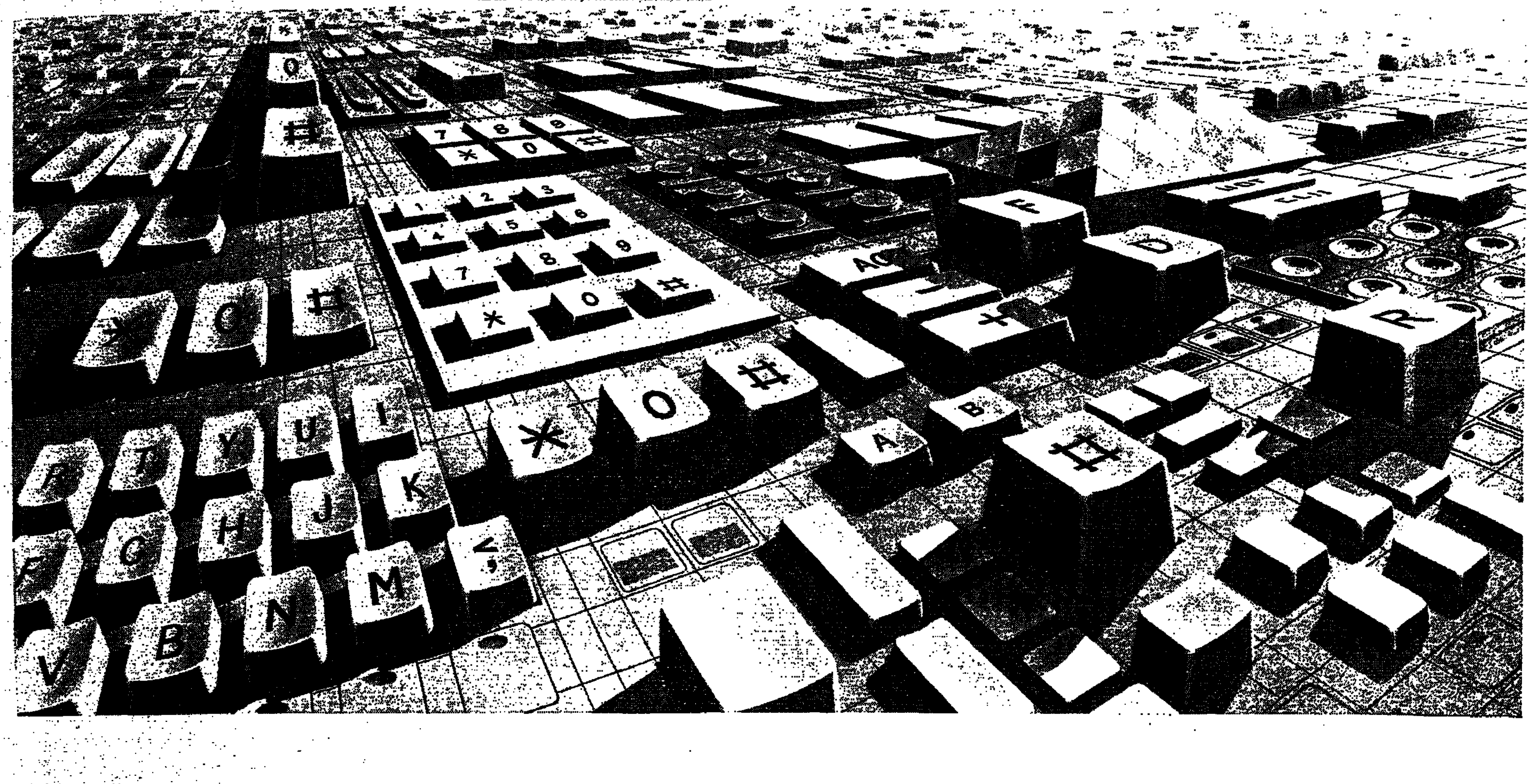
Both the UK and Japan have concluded independently that the traditional structure of their telecommunications industries was hindering innovation and efficiency. In both cases, it has been decided that rigid state monopolies operating in civil service lines are ill-equipped to respond to the challenges of fast-moving markets.

Complex

However, both countries have gone less far than the U.S. in opening the doors to competi*tion and are adopting* a more managed approach to deregulation. In the UK, British Telecom's market dominance remains largely intact, and the main benefit to customers so far stems from the more responsive and commercial attitude which

CONTINUED ON PAGE 14

IN THIS SURVEY



A diminished U.S. giant finds a learning curve

AFTER 103 years as a regulated monopoly delivering reliable, cheap basic telephone service, the new American Telephone and Telegraph (AT & T) experienced a bumpy beginning in its first year as a slimmed down giant competing in new unregulated markets.

Profits have failed to match up to projections and questions have been raised about the new AT & T's ability to deliver and market new customer products and services in a fiercely competitive environment.

AT & T

PAUL TAYLOR

For many AT & T employees, used until recently to working in a stable, protected environ- bonuses, were the norm and a job *was usually for life*, the break-up of the world's largest corporation, at the start of 1984, has required the assimilation of a new corporate culture.

But despite its problems, AT & T has tremendous resources and is striving to prove that it also has the ability to learn and adapt to the new challenges it faces.

"The people who are staying with the company are people who understand that a new day has dawned for AT & T and who want to be in on the action," commented Mr Charles Brown, AT & T's chairman, last month.

Mr Robert Allen, AT & T's executive vice president in charge of administration and finance, says the need for a change in corporate culture was "overstated." He accepts, however, that there has been an "evolutionary" change as AT & T's workforce has begun to focus more clearly on defining consumer needs, identifying markets, speeding the production process and making it more efficient.

"There is nothing that shocks more than to lose in the marketplace, an experience that in a reasonably protected environment we did not fully appreciate," says Mr Allen. Now he says "we are on the right learning curve."

Many AT & T employees have had to learn new skills and new ways of doing business.

"There has been a lot of anxiety among our employees," admits Mr Allen, although he adds that he believes the worst is now past.

Some of this anxiety has stemmed from the structural re-organisation underway at AT and T. Essentially this re-organisation has focused on switching from a structure based on functions, to one based on lines of business bringing together research, manufacturing, marketing and sales units under one of five market-orientated divisions of the new AT & T Technologies Group.

Major thrust

A second major thrust at the new AT & T has been towards greater cost control and cost reduction—a *process which* many industry experts believe was long overdue anyway.

In an effort to cut costs and modernise, four ageing Western Electric factories are being closed.

Mr Jim Olson, chairman of AT & T Technologies, set a 20 to 25 per cent target for overall cost reduction for his group last May—"We are not there yet but we are well over half way," says Mr Allen.

In other actions, salesmen's high salaries are being replaced with low-base salaries and bonuses, employees are being held more accountable for performance, new accounting systems have been introduced, management wages have been frozen, headquarters staff have been slashed and voluntary retirement programmes introduced for the first time.

In the past year, 13,000 "positions" have been eliminated and the total workforce has been trimmed from 374,000 to 369,000. Further job cuts are expected—but on a more limited scale which Mr Allen refers to as "fine tuning."

"We entered this new competitive world with a cost structure that is too high," admits Mr Brown. "We are very serious about bringing our cost down."

Indeed, the company's financial performance to date has been another source of anxiety, not only to AT & T managers and employees, but also investors.

AT & T's earnings have fallen well behind the projections made by the company ahead of the breakup and in the 1984 third quarter sales in both the Technologies group and AT & T Communications, which provides long-distance telephone services, fell from the previous quarter.

Nine month earnings of $1bn or 91 cents a share represented just 45 per cent of AT & T's pre-divestiture projection of $2.02 a share in full year net earnings. Indeed, with Wall Street analysts now projecting full year earnings of around $1.48bn or $1.35 a share, earnings will barely cover AT & T's $1.20 full year dividend reaffirmed by AT & T's board last month.

"We predicted we would face a tough first year and we have proven that ourselves," says Mr Allen.

Along with Mr Brown and other senior AT & T executives, he argues that much of the shortfall in projected earnings reffects the slower-than-expected regulatory action in Washington on such crucial issues as the level of residential end-user charges and access charges where the Communications group still labours under a serious cost disadvantage against other long-distance companies.

But prospects are brightening. Further regulatory changes, though slow in coming, promise some relief for AT & T in its long-distance business and many of the raft of new products introduced by the Technologies sector in the past year have been well received.

"I see these first years as stepping stones to our future." Mr Brown *told industry* analysts. "We will get more sure-footed as we make the crossing, but it will be a while before we are earning at a level that will meet the financial goals we have set for ourselves —and to which we remain committed."

The goals

Those goals include a 17.6 per cent return on equity in the communications division in the near term and a 20 to 25 per cent or higher return for the Technologies sector.

To achieve those goals, AT & T will have to work hard. But despite some setbacks, it is already showing it knows what must be done and has the determination and financial muscle to succeed. In the long-distance telephone business where AT & T faces fierce competition from cut-price carriers such as MCI and GTE Sprint, its newly aggressive marketing tactics have surprised competitors and won praise—despite the grumbles of consumers confused by the changes and angered by service and installation delays.

AT & T's chairman admits there have been problems, but the company acted quickly setting up a task force to sort out post-divestiture delays. As a result, service orders are now back to near normal and the backlog in private line orders has been reduced from 44,000 in mid-summer to under 16,000.

In the market for network switches, AT & T is "rambling-up" production of its 5ESS digital switch and has formed joint ventures with Philips of Holland, South Korean and Taiwan companies to market the product overseas. In 1984, AT & T shipped 147 digital switches with 2.5m lines of capacity compared to 27 switches with 180,000 lines in 1983.

This year, Mr Brown says, the company expects to ship 325 5ESS switches with 6m lines.

It is, however, AT & T's push into the unregulated office equipment and computer market which has perhaps drawn most attention — with success and some disappointments.

The new *products* have included the PC6300 personal computer, the 3B line of business computers and its system 85, system 75 and Merlin PBXs.

There is little doubt inside or outside AT & T's plush new mid-town Manhattan headquarter building that it is the convergence of telephone and data processing technologies that provides perhaps the greatest challenge for AT & T, which, with $39bn in assets is about the same size as International Business Machines — increasingly seen as the arch rival.

IBM's recent acquisition of Rolm, the West Coast PBX-maker, is seen by AT & T executives as a key strategic move by Big Blue — one which further signals IBM's intention to go "head-to-head"* with AT & T — a challenge which AT & T has signalled it intends to meet with its own products and, where necessary, others brought in.

AT & T's move six months ago into the personal computer market with a machine made by Olivetti, the Italian group in which AT & T has acquired a 25 per cent equity stake, immediately raised the stakes in a battle which is now frequently depicted as a future "clash of the Titans."

While AT & T's initial entry into the personal computer market has disappointed some outsiders, AT and T executives express no such reservations — "we have not made a big dent, but it would be surprising for anyone entering a new market that competitive with such formidable competitors to make a big dent in six months," says Mr Allen.

Enthusiasm

AT & T executives also express strong enthusiasm and confidence in their new international partnerships, including the Olivetti link-up, despite some hints of early teething problems.

"*New marriages are not without adjustments*," says Mr Allen, but he adds: "We have been meeting recently *to* strengthen the relationship and to work out any hitches that may exist and to make plans for the *future*."

This year another flood of new products, including office work stations, from the Olivetti partnership and improvements to the AT & T line of 3B computers are promised "fleshing out" the product line and confirming what Mr Brown terms AT & T's "intention to be a complete vendor of office automation systems."

"We intend to be in the marketplace, we have the staying power and we have the skills and technology," says Mr Allen. The new AT & T may have set off to a rocky financial start but no one underestimates AT & T's determination to succeed.

The Bell system breakup is one-year-old and its repercussions are already being felt *throughout the world* telecommunications industry. It may be a decade before the market settles down. In the meantime, from the new AT & T's perspective, it is just the end of the beginning.

AT & T regional holding company results

Name	3rd qtr revenue $bn	3rd qtr net income $m	3rd qtr EPS†	9 mths revenue $bn	9 mths net income $m	9 mths EPS†	1984 EPS† Estimate*	Access lines
AT & T	8.01	317.0	0.28	24.78	1,000.0	0.91	1.30	n.a.
Ameritech	2.11	266.0	2.72	6.21	788.0	8.10	10.50	14,257,000
Bell Atlantic	2.01	249.5	2.54	5.99	732.0	7.51	10.15	14,585,000
Bellsouth	2.38	326.0	1.11	7.00	894.4	3.06	4.10	13,955,000
Nynex	2.42	262.8	2.66	7.06	724.1	7.44	9.85	13,040,000
Pacific Telesis	1.98	229.3	2.23	5.75	659.5	6.45	8.50	11,237,000
Southwestern Bell	1.836	242.4	2.47	5.3	659.5	6.78	9.00	10,607,131
U.S. West	1.86	228.3	2.39	5.403	634.3	6.61	8.90	10,747,000

* Standard & Poors Outlook
† Earnings per share

Research by Rivka Nachoma

Changes will toughen competition

U.S. long-distance services

PAUL TAYLOR

THE BREAK-UP of the Bell system has created unprecedented opportunities—and risks —perhaps nowhere more so than in the U.S. long-distance telephone market.

AT&T and its long-distance telephone service rivals emerged from 1984 battered and bruised—but having learnt one clear lesson: selling long-distance telephone service is a cut-throat business in a changed environment where marketing is crucial and the customer is king.

"It is intensely competitive," says Sam Willcoxon, executive vice-president for marketing at AT&T Communications, the AT&T unit responsible for long-distance service.

The new AT&T entered divestiture still with the lion's share of the $45bn a year U.S. toll market but with other common carriers like MCI, GTE's Sprint, ITT and IBM's Satellite Business Systems, snapping at its heels.

The divestiture agreement set in motion a process designed eventually to create "a level playing field" for competition in the long-distance market, and a marketplace in which customer charges would more closely reflect costs. The impact of this radical change is already being felt.

Central to this strategy is the notion of "equal access" to the local telephone system for all long-distance competitors. For the first-time customers will be free to choose their long-distance carrier and place toll calls without the need to punch in a string of extra digits.

The move to equal access, in which customers are being asked to choose their favoured long-distance carrier began in Charlotte, West Virginia in July and will be completed by September, 1986.

Market shares

What Charlotte and other early equal access areas have showed is that the change is likely to bring even tougher competition—and higher marketing costs—to the long-distance carriers as they rush to sign up customers.

It is also likely to change market shares, perhaps dramatically. MCI claims it is winning between 10 and 15 per cent of the market in equal access "competitions"—about three times its overall market share—while GTE Sprint claims between 6 and 15 per cent.

In the battle to sign up new customers, millions of advertising and promotional dollars are being spent. Last year alone, MCI spent $20m—or a third of its total marketing budget—to sell its service to customers in equal access areas.

In contrast AT&T Communications, which has adopted a much tougher, hard-nosed advertising strategy, spent a total of about $200m on marketing last year. The AT&T dollars went not only on media advertising but also on projects like "opportunity calling" which offers long-distance customers dollar-for-dollar discounts on merchandise, and "reach out America," a cut-rate weekend and night-time package which provides one hour of long-distance calls for a flat $10 a month. More than 800,000 subscribers have already signed up opportunity calling.

There are other major changes under way which deeply affect the pricing of long-distance telephone calls in the U.S. and the finances of the companies which offer the service. For AT&T competitors the rights to compete on an equal footing with the industry's giant have come at a price.

Since last May, all the long-distance companies have had to pay access charges to local telephone companies to complete their customers' calls through local networks. White the new AT&T payments will fall over time, those of its competitors will increase, narrowing the cut-price carriers' current cost advantage.

"As equal access cuts in their costs will ramp us," says Mr Willcoxon.

Pricing strategy

At the same time, AT&T Communications has adopted a more aggressive pricing strategy in an effort to halt the erosion of its market share in the long-distance business. Last year it has lowered its long-distance charges by more than 6 per cent or $1bn, forcing its competitors to match the move by reducing their own charges and, as most have done, remove monthly and sign up-fixed charges.

Mr Willcoxon, commenting on the new aggressive strategy which has surprised some Wall *Street analysts and competitors* with its force, says: "I think it is crystal clear through various initiatives that we don't intend to sit idly by; we do not intend to watch over the demise of AT&T."

This twin-bladed cost and pricing pressure has come at a time when the major long-distance telephone companies are spending heavily to expand and upgrade their networks. AT&T itself announced in November last year that it would spend $2bn by 1990 to expand its long-distance network including *21,000 miles* of advanced fibre-optic cable capable of carrying both voice and data.

Other carriers are also investing heavily. MCI spent $1bn to expand its service last year and will spend the same again in 1985. GTE, which invested almost as much in sprint, actually had to stop accepting new customers at one stage last year because it ran out of capacity.

These factors have faced MCI and AT&T's other cut-price competitors with a cash squeeze. Both MCI and GTE reported big gains in the number of customers but lower revenues and profits in the September quarter. MCI's profits fell by 86 per cent while GTE's communications services division, which includes sprint, lost $1:7m.

Most Wall Street analysts expect a substantial shake out in the industry before the pricing structure stabilises. Many believe that the number of long-distance carriers could drop from around 400 currently to about 20 with the bulk of the business accounted for by a handful of big companies.

What is already clear is that the structure of the long-distance telephone market is undergoing a fundamental change. The old pre-divestiture Bell system together with the independent telephone companies commanded an overwhelming market share, in ter of revenues, customers and line-minutes.

AT&T itself, excluding the Bell operating companies, had revenues of $26.13bn from inter-exchange business in 1983 compared to $3.823bn for the other common carriers.

The rest of the $45bn market was accounted for by the Bell operating companies themselves, the independent telephone companies and by private microwave companies.

Some confusion surrounds the current break-down and definition of the market but AT&T Communications, while it still has 80m residential and 7m business customers, says that in revenue terms its market share is now down below 60 per cent and is still slipping. However, because of the growth of the market, AT&T Communications should still be able to increase its revenues in absolute terms.

AT&T Communications' efforts to dispel what it sees as the "myth" of its market dominance reflect its concern that it itself should now be given fairer treatment by the regulators.

In particular, AT&T wants the FCC to change the rules which still force it to file time-delaying tariff changes and, at least for the moment, pay access charges that are 55 per cent higher than its rivals. It would also like the FCC to allow it to earn a more flexible rate of return on its investment rather than the current 12.75 per cent fixed ceiling—a ceiling which its average 11.5 per cent return in the first nine months last year failed to match.

Whatever happens to the structure of the industry, MCI and GTE will almost certainly be among the survivors and Wall Street expects the financial muscle of their parents will probably ensure the survival of ITT's service and that of SBS which has yet to make a profit.

Uncertainty

There is much more uncertainty about the hundreds of smaller companies and the resellers like Allnet who have prospered until now by leasing or buying lines at a discount from AT&T and other major carriers and then repackaging them for their own customers.

The battle has already claimed some victims. U.S. Telephone, once a leading reseller, was acquired last year by United Telecommunications, the large independent telephone company. LDX and Lexitel, two other resellers, merged in July and Ford Aerospace and Communications acquired Starnet, a California-based reseller.

While more stability and improved margins are expected as the market settles down, few Wall Street analysts believe margins will ever be as high as before divestiture.

The other side of the coin is that at least in long-distance telephone market, the customer appears to have benefited in terms of cost—even if he remains thoroughly confused about the changes.

Last year, long-distance rates fell by between five and six per cent partly offsetting local telephone charge increases and the monthly customer "access fees" which have already been introduced by the U.S. Federal Communications Commission for business customers and will be phased in beginning in June for residential telephone subscribers.

Regionals are riding high

THE SEVEN regional telephone holding companies were called Ma Bell's "orphans" when they were spun off a year ago in the biggest-ever, court-ordered divestiture. The regional holding companies—each a giant in its own right—faced an uncertain future in a fast-changing industry.

One year later, many challenges still remain but the new "seven sisters" have already proved they can stand on their own. Their profits have been higher than projected, dividend increases are expected and share prices are riding high, outperforming the market.

U.S. regional telephone companies

PAUL TAYLOR

They have controlled costs by trimming staff and proved fast-learners in the marketing game. What is more, they have begun to express their independence by challenging AT & T for contracts, ordering equipment from some of their parent's old rivals and aggressively fighting for the right to enter new and unregulated businesses.

In 1984—or 1 AM (after divestiture), as last year is now known—much to the surprise of Wall Street, it has been the regionals who have stolen the show.

After a somewhat hesitant start, the share prices of the seven regionals have spurted. By last month, the group's share value had increased by almost 20 per cent while the S & P 500 index increased a mere 1.9 per cent, share prices have been bolstered by healthy earnings and high dividends.

Strong growth

In contrast to their old parent, the per share earnings of all seven regionals had more than covered their annual dividend by the end of the third quarter and Wall Street telecommunications analysts are now looking for first quarter dividend increases of between five and seven per cent.

"The fundamentals of the local exchange industry are both sound and improving," says Neil Yelsey, a Salomen Brothers telecommunications expert.

The strong growth in the U.S. economy has helped the regionals. But with local telephone service still providing over 95 per cent of their revenues, their success in winning rate increased from state regulators and an impressive, and largely unexpected, drive to cut costs and staff have been major factors in their performance to date.

U.S. West, for example, has trimmed its workforce since January 1, 1984, by more than 3,000, while Nynex has cut more than 2,500 jobs. Meanwhile, while revenues have fallen slightly below expectations, Bell operating companies have won over $2.6bn in state authorised rate increases with decisions on $3.4bn in higher charges still pending, according to Salomon Brothers figures.

The seven regionals have also begun to develop their own distinctive strategies and have not shied away when these have brought them into apparent conflict with AT & T, the supposed "new order," and even with each other.

In several cases regional companies have bid in direct competition with AT and T for lucrative commercial and industrial contracts. So far, AT and T has won most of the contests, but the battle is on. Similarly, the Bell companies have begun to offer services to customers in their "sister's" patches. Bell Atlantic has won an Inland Revenue contract in New York, Nynex's backyard while a U.S. West subsidiary is offering a consultancy service in 30 cities nationwide.

Most have also begun to branch out from their basic telephone business, carefully at first, but with a growing momentum. The divestiture agreement left the Bell regionals with rights to three basic non-telephone businesses, directory or "Yellow Pages" advertising, cellular telephone service and the right to set up separate customer-premises-equipment marketing subsidiaries.

All the Bell regionals have formed subsidiaries to actively pursue these businesses.

"We believe it is extremely likely that all these businesses will register considerable sales growth and produce a respectable profit for their parent companies by the end of the decade," says Mr Neil Yelsey in a recent Salomon report. Already these non-regulated businesses are beginning to contribute to the bottom line at some of the regionals.

Most of the regionals are already selling private branch exchange equipment (PBX's) sold by Northern Telecom and other AT&T rivals.

By some estimates, their share of the equipment market could rise from nothing to perhaps 25 per cent within a few years. Ameritech's equipment subsidiary, one of the most aggressive, sold over $100m of telephone, office communications and data transmission last year.

A Nynex subsidiary has begun opening Datag stores that offer a wide range of telecommunications and computer products — including IBM products — to small business and professional buyers and last month signed an agreement with Data General, the computer group, to offer Data General's complete line of products.

Nynex Business Information Systems president, Mr Richard Santagati, noted: "Business customers no longer are satisfied with communications companies that can meet some of their needs. They want one company, one source that will investigate their communications and information needs and design an integrated system that truly works."

A unit of Southwestern Bell has won a joint venture five-year contract to sell Yellow-Page advertising in Australia and several of them are venturing into the property business.

Challenge

The Bell companies are also beginning to challenge AT&T's dominance of complex leased business equipment by cutting prices and reviving a system called Centrex which offers customers many of the advantages of an in-house PBX.

Other Bell companies are seeking permission to offer high speed computer communications using new digital switches they are installing at rapid pace. Most have become involved in the explosion of cellular car telephone systems and some are edging towards offering interactive cable TV and video services.

But they have also already gone further than perhaps was ever anticipated in challenging the basic barriers implicit in the divestiture agreement which separate regulated local telephone service from non-regulated businesses.

Last month, with the backing of the U.S. Federal Communications Commisssion (FCC) they won an important ruling from Judge Harold Greene—architect of the Bell system break-up.

The ruling will permit six of the seven Bell companies, through seperate subsidiaries and with certain limitations, to proceed with plans to enter new businesses including computer and office equipment sales, property services and a variety of foreign ventures.

Approval

Judge Greene's ruling allows Nynex, Pacific Telesis and Bell South to sell office equipment, computers and services. In addition, Bell Atlantic was given permission to acquire Tri-Continental, an office equipment leasing company, and Sorbus, a Philadelphia computer maintenance company. Bell Atlantic has already acquired an Atlanta-based paging company.

U.S. West and Pacific Telesis won approval to provide property services and U.S. West was given permission to go ahead with a cellular radio system for the Gulf of Mexico.

Pacific Telesis, Nynex, U.S. West and Ameritech were given approval to set up overseas subsidiaries which will provide consulting services, training, engineering, design, construction and other services and be allowed to sell computer and telecommunications equipment and software overseas.

These new ventures represent an important toe-hold for the regionals in high-margin value added services and the ruling is expected to be the first of many on similar applications.

Despite this relatively rosy outlook, the Bell regionals do however, face a series of serious challenges. Among these, some state regulators are beginning to pare back rate increases and are considering allowing new local competition for local telephone service.

By the end of this century, many Wall Street analysis believe all local exchange operators will face considerable competition.

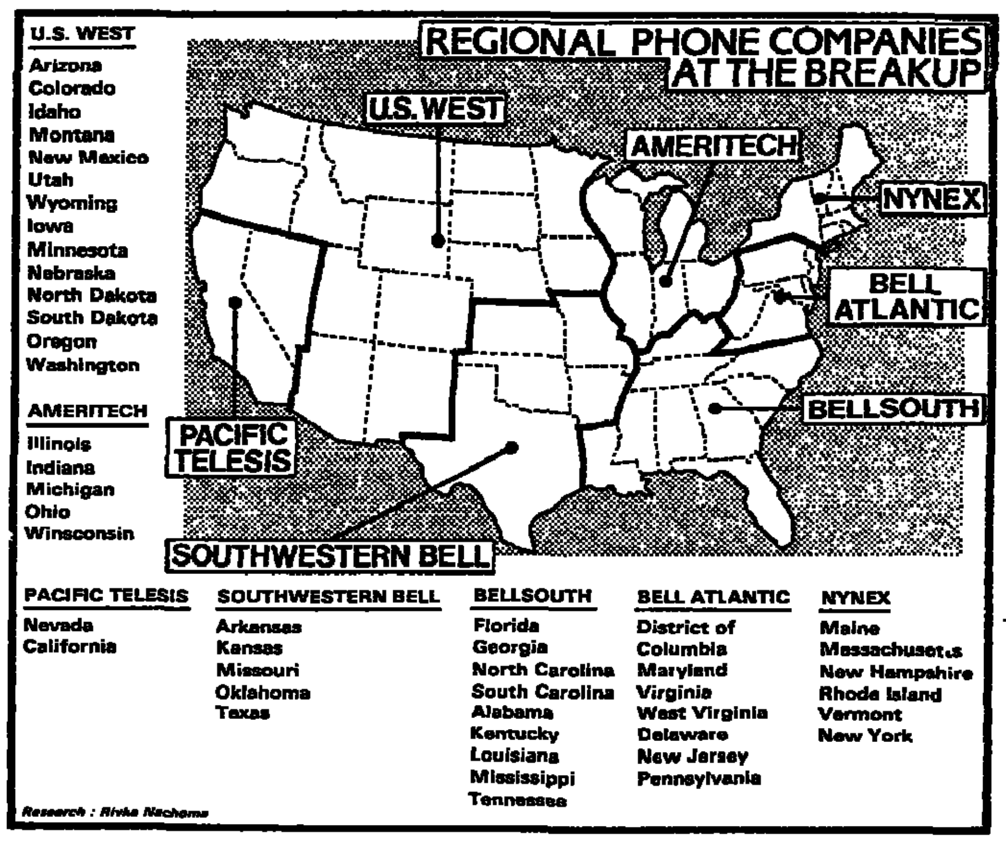
Part of this competition is likely to take the form of "by-pass" systems used by large business customers to route calls without entering the local telephone network. Since business customers generate a disproportionately high percentage of the regional's revenues, by-pass represents a potentially serious threat.

State regulators may be inadvertently encouraging by-pass by perpetuating a charging structure still unrelated to costs and which effectively means business customers subsidise private subscribers.

For example, Pacific Telesis estimates that the cost of providing an individual subscriber with a dial tone is $28 a month. Even with a recent rate increase an individual subscriber is still only paying $8.25 a month for the line.

Another potentially serious challege comes from the possibility that AT&T will set up its own billing systems for long-distance customers — a move which could deprive the regionals, who currently provide the service on contract, of perhaps $2.5bn a year in revenues.

For the moment, however, the regionals have generally delivered on their promise at divestiture. The parts do indeed appear to be worth more than the whole.



Battle of the Titans

U.S. equipment manufacturers

LOUISE KEHOE AND PAUL TAYLOR

THE CONVERGENCE of telecommunications and data processing technologies into the field of digital communications is dramatically reshaping the telecommunications equipment industry. Coupled with deregulation of the U.S. telephone system and the break-up of AT&T, the spread of digital communications has created a new and fiercely-competitive environment for all types of communications apparatus.

Over the past year this has been particularly evident in the market for "private branch exchanges" (PBX), systems that automatically direct message calls between anything from a dozen up to 1,000 or more telephones, computers and terminals.

The PBX market has come to exemplify the clash of the Titans of each of the traditional business sectors — AT&T, the communications giant, and IBM, the master of the computer universe.

AT&T used to virtually own the PBX business. Ten years ago Western Electric (now part of the new AT and T Technologies group) supplied about 85 per cent of such equipment used in the U.S. Today the picture is very different as new and aggressive U.S. companies and foreign competitors from Japan and Europe have moved into the market.

The new AT & T is struggling to hold on to a 30 per cent market share. Its clostest rivals are Rolm and Northern Telecom, both of which claim about 18 per cent of the $3bn business.

Other major competitors include Mtel of Canada whch has just over a 10 per cent share of the market and, despite problems, still dominates the low end of the market, Siemens of West Germany, L. M. Ericson, Nippon Electric and ITT.

IBM's recent acquisition of Rolm has placed the computer company in direct competition with AT & T. Although IBM has been developing its own PBX technology for several years (having pulled out of a venture with Mitel in 1983 when the Canadian company ran into delays with its SX-2000 switch) and was widely expected to challenge the current market leaders with its own office communciations systems, the new IBM/Rolm alliance gives IBM an immediate and strong position in the field.

The PBX is now widely seen as the controlling element in office automation—the hub to which all other equipment will be attached. PBXs use ordinary phone lines to send messages, so they are cheaper and easier to install than alternative networking systems such as local area networks.

The local area network (LAN) was once regarded as a competitive approach to the problem of stringing together hundreds of pieces of office equipment, but is now seen as a complementary sub-set of the office network. The PBX, according to most analysts, will become the universal switching system.

The PBX market can be divided into several distinct sectors: under 200 lines, 200 to 500 lines, and systems capable of handling 500 lines and more —including the big network switches used by local telephone companies. The factors affecting the purchase decision, the channels of distribution and the competition, are quite different in each sector.

Over the past year, the under 200 line sector has been growing rapidly. Major competitors here include Mitel, Rolm, Siemens and AT & T. These "small" PBXs are sold to small businesses and pricing is highly competitive. By 1990 this section of the market alone will total oved $4bn, according to the analysts L. F. Rothschild.

In the 200-to-500 line sector of the market, AT & T, Rolm, Northern Telecom, Mitel and ITT are the major competitors. Other companies like Intercom, which is 20 per cent owned by Wang, the major office automation supplier, have also emerged as serious contenders in this section of the market. Intercom, with its range of voice/data switching equipment, is 20 per cent owned by Wang, a major office automation supplier.

● Manufacturers scramble to boost output: see page 12

State telecommunications authorities as well as equipment-makers are coming under growing pressures

Long-established policies face big challenges

PRESSURES for change are crowding in on Europe's telecommunications industries from all directions. Rapid technological innovation, radical shifts in economics and the backwash from U.S. deregulation are combining to challenge the stability of long-established policies and institutions.

Historically, the framework within which telecommunications has developed since early this century has been broadly the same throughout Europe. In most countries it has been regarded as a "natural" monopoly, justified by social objectives and by economies of scale which argued in favour of a single national network operator.

The European scene

GUY DE JONQUIERES

Many of the problems confronting European countries today are also similar. Evolving *technology* has extended the boundaries of telecommunications far beyond basic telephone service and has thrust it into the forefront of the emerging information economy. As new products and services proliferate, customer demand for much wider freedom of choice are growing apace.

State telecommunications authorities (PTTs) are coming under growing pressure, either to become more flexible and responsive to a much more vigorous market, or to permit deregulation of some activities which have in the past been the exclusive domain of monopoly privilege.

At the same time, Europe's leading telecommunications equipment manufacturers faced increased uncertainties. Many of them have long operated almost as extensions of state monopolies and have been supported by their national PTTs, which have provided a captive market for their products.

But harsh economic realities are imposing severe strains on these traditional relationships. The costs of developing sophisticated new telecommunications systems are soaring to the point where it is increasingly difficult to recoup them profitably through sales even to the largest European national market. The problem is exacerbated by the near-universal trend among PTTs to split orders for equipment such as public exchanges between two or more competing suppliers.

However, reactions by individual European countries to these challenges have so far been widely divergent. The differences between them have been heightened by the UK's decision to modify fundamentally its telecommunications policies by embarking on a programme of liberalisation and by selling shares in British Telecom to private investors.

The UK's actions have been greeted by bewilderment and disapproval elsewhere. At a Financial Times conference in December, M Jacques Dondoux, director general of France's state telecommunications authority, rebuked the UK for turning its back on the rest of Europe. Some German critics have accused Britain of naively apeing U.S. deregulation.

None the less, though no other European country seems ready to plunge down exactly the same road as the UK, several are starting to re-examine existing policies and practices. In the Netherlands, a public debate is under way on proposals to liberalise some aspects of the PTT monopoly.

Strategy

In West Germany, the federal government recently appointed a committee to study the long-term development of the country's telecommunications strategy and to recommend changes in the policies of the Bundespost (Post Office). Some observers *have forecast that the committee* will suggest splitting the postal service from telecommunications and deregulating the supply of subscriber apparatus.

Belgium and Spain, as well as British Telecom, have agreed to link up with MCI Communications of the U.S., which is challenging American Telephone and Telegraph's monopoly over transatlantic traffic. France, while condemning the outbreak of competition in international services, has none the less matched recent cuts by AT&T in its transatlantic tariffs.

Just how far these various developments will go is still uncertain. Much may depend on the balance of political forces in each country. But there is little doubt that proposals for radical changes will face strong institutional resistance from PTTs which have long been accustomed to functioning as largely autonomous entities with wide-ranging authority.

The outlook is further complicated by the role which many PTTs play as instruments of industrial policy. Their technical resources, their expertise, their control over markets and, above all, their massive procurement power enable them to wield immense influence over local telecommunications and *electronics industries.*

In France, this role was recently made explicit in the Government's decision to transfer to the Direction Generale des Telecommunications responsibility for directing and funding the country's industrial electronics strategy, the *filiere electronique.*

In the UK, in spite of liberalisation, the Government is encouraging British Telecom to become the country's information technology "flagship." The idea seems to be that BT will assume a patriotic mission, leading smaller companies in an assault on world markets. How that will fit with BT's determination to adopt a much more hard-nosed commercial attitude in future is not clear.

Monopoly practices and protectionism have also enabled most European countries to maintain balanced trade or surpluses on telecommunications equipment. That is in contrast to the sizeable deficits which most suffer on other electronics products such as semiconductors and computer equipment.

However, by sheltering their national markets so extensively, European countries have also kept telecommunications trade within the EEC to a mere trickle and insulated their local industries from the spur of direct competition.

The disadvantages are starting to become increasingly apparent. Denied access to a genuine European market, telecommunications manufacturers are finding it increasingly hard to generate the economies of scale needed to remain internationally competitive. Furthermore, their heavy dependence on monopoly purchasers has meant that few of them have developed the marketing skills needed to perform effectively in open competitive markets.

During the past year, at the prompting of the EEC Commission, PTTs have cautiously begun to discuss ways to lower national barriers to trade. They have agreed in principle to recognise each others' type approval results for subscribed apparatus and to study harmonisation of standards for new generations of equipment and services.

Momentum

Talks between European manufacturers on proposals for joint development projects have gained momentum in recent *months. But so far, no major* agreements have been reached. Much depends on whether PTTs are willing to commit themselves to buying the products resulting from such collaboration.

France has been pressing other EEC countries to agree to a reciprocal opening of national markets. However, its proposals for cross-procurement of public exchanges have been spurned by British Telecom, while Franco-German plans to develop jointly a cellular mobile telephone system have also been stalled.

Every European country proclaims its commitment to opening a genuine common market; but each, it *seems,* is waiting for the others to act first. This political hesitation, allied to the formidable technical complexity of standardisation issues, does not provide much optimism that progress will be made quickly.

Meanwhile, commercial pressures on the supply industry seem certain to continue. In particular, the market for digital public exchanges is starting to look dangerously overcrowded, with almost a dozen different manufacturers fighting *for survival. This compares with* only three or four in the U.S.

Many industry experts expect a major shakeout among European suppliers in the next decade. Ironically, progress towards the creation of a genuinely competitive European market could accelerate that process. The result might be a fitter, though leaner, industry. But that prospect is scarcely likely to convince those companies and countries which stand to lose out that the sacrifice was worthwhile. Everybody, after all, likes to think that he will be the last player left in a game of musical chairs.

An industry in transition

THE IMMENSELY successful stock market flotation of shares in British Telecom late last year marked the culmination of a series of policy measures put into effect by the Thatcher Government which have transformed the UK telecommunications industry in the past five years.

BT's statutory monopoly has been dismantled and replaced by a more liberal regime; Mercury Communications, a subsidiary of Cable and Wireless, has been licensed to compete with BT in offering business communications services and two rival consortia (one led by BT, the other by Racal) have been authorised to operate cellular mobile radio networks.

UK policy changes

GUY DE JONQUIERES

In addition, the formerly rigid rules governing the supply of apparatus and services have been considerably loosened; companies operating private networks have been permitted limited freedom to extend their use beyond their own internal communication; and a new regulatory system and watchdog authority, the Office of Telecommunications, have been created.

Telecommunications users have undoubtedly benefited from a wider choice of equipment and services and from keener pricing. To a considerable extent, the change in the market has been due to improvements in the performance of BT itself, which has responded to the challenges and opportunities offered by liberalisation with surprising vigour (see accompanying article).

However, though it has gone much further than any other European country in changing the monopoly structure of its industry, Britain does not yet have truly open competition in telecommunications. It is certainly a long way from the "free-for-all" which has taken place in the U.S. in the past few years.

BT remains overwhelmingly the dominant force in UK telecommunications. It has retained control of all its existing markets and has moved successfully into new ones—for example, the sale of large private branch exchanges (PABXs), which it did not start supplying until 1983.

It seems certain to keep a de facto monopoly over the local network until at least 1990, and until then Mercury is expected to be its only challenger in long-distance and international services. It also enjoys the advantage of having every telephone user in the country as a customer—a strength which gives it better market intelligence than any of its rivals.

The Government's critics have objected that, in these circumstances, the sale of BT shares to the public amounted to little more than privatising a monopoly; and, indeed, that the Government shied away from radical policy actions because these could have compromised its objective of obtaining the best possible price for BT shares from investors.

There is undoubtedly some truth to these accusations. The planned sale of BT shares looked like a high-risk option until shortly before they were issued, and the Government was anxious to do everything possible to avoid the political embarrassment which would have resulted if the flotation had failed.

However, there are other reasons, too, why the Government has chosen to temper its reformist zeal with pragmatism. Some of these were crystallised in its internal discussions over whether to break up BT, as American Telephone and Telegraph has been dismembered in the U.S., and to sell it off in pieces.

That idea appealed to those ministers favouring more forthright action to promote competition. But a highly effective lobbying campaign by BT itself persuaded the Government to reject the idea.

BT argued that, if intact, it could act as a "flagship" which could lead the UK information technology industry into battle on world markets and also prevent the British market from being flooded by imported equipment.

BT also pointed out that lack of precise financial information about its own operations would make a break-up hard to implement, and that the future of its loss-making businesses would be uncertain if they were separated from the profitable parts.

In the event, the Government has opted for something of a British comporimes. BT remains intact but is bound by a number of special conditions in its licence. These include an obligation to continue certain socially necessary services and a requirement to limit rises in its main inland tariffs to three percentage points less than the inflation rate during the next five years.

Both BT and Mercury have been given five years in which to set their businesses in order. The Government has undertaken not to licence any other common carrier to set up in Britain before 1990 and has imposed tight restrictions on the resale of capacity on BT's circuits to third parties.

In the absence of open competition, the task of ensuring fair play falls to the Office of Telecommunications (Oftel) and its director-general, former accountancy professor Bryan Carsberg.

On paper, at least, Oftel enjoys considerable powers. It may direct BT and its competitors to amend their practices and, if it so deems, make references to the Monopolies and Mergers Commission. It may also recommend changes in their licences, subject to approval by the MMC.

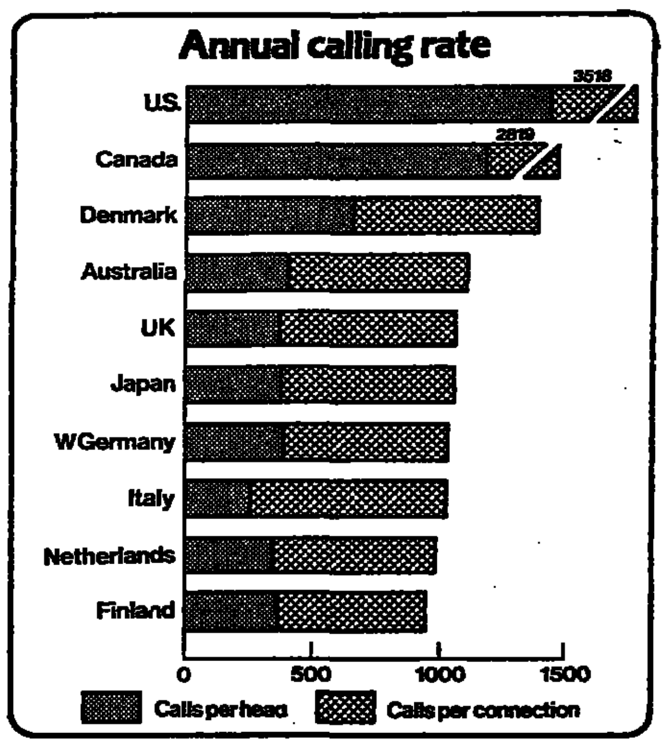
On the other hand, it starts life with a small staff of about 50 and a modest annual budget of less than £3m. A number of commentators have pointed out that it runs the risk of becoming the captive of BT, on whose co-operation it is likely to have to rely extensively to make its influence felt. Nor is Oftel likely to be able to match the lobbying power which BT can bring to bear in West minster and Whitehall.

Serious test

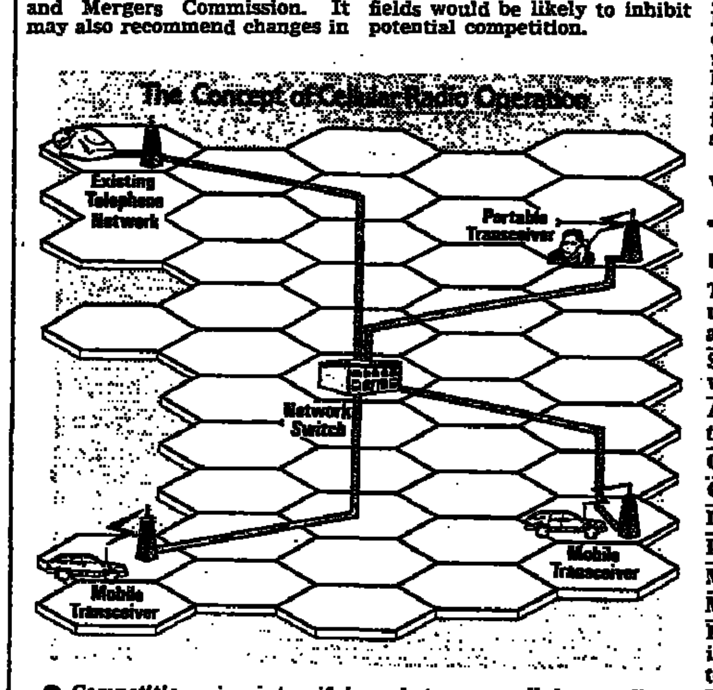
However, Oftel has already successfully passed one serious test of its credibility since it was set up last summer. This arose from a request by BT and International Business Machines for a licence to set up a joint subsidiary to operate a sophisticated electronic information network in the UK.

The issue posed a dilemma for the Government. BT contended that it was seeking to exercise its now-found commercial freedom by undertaking a project which could give Britain a head start in pioneering an exciting new business in which there was likely to be strong international competition.

However, the proposed venture was strongly resisted by many in the UK electronics and computer services industries. In the final analysis, the Department of Trade and Industry decided to go along with Oftel's advice that the BT/IBM proposal should be rejected. Oftel had argue dthat a joint venture between two companies so dominant in their respective fields would be likely to inhibit potential competition.



● The telephone calls per head in the UK and West Germany are almost the same. An outstanding figure is the annual call rate of Denmark, some 50 per cent higher than that of the UK and Germany



● Competition is intensifying between cellular radio-telephone systems. This trend is further examined on Page 12

Sector has prospect of explosive growth

Value-added network services

JASON CRISP

VALUE ADDED network service is not a description that trips lightly off the tongue, yet many people in the industry believe VANS will soon become one of the fastest growing and most exciting areas in telecommunications.

According to a recent report* from the U.S. consultants Frost and Sullivan, revenues of all VANS in Europe will rise to $5.7bn by 1990, compared with $532m last year.

Britain is now the largest market for VANS in Europe and is likely to stay in that position for several years because of the liberalisation of the UK telecommunications environment.

VANS in the U.S. have been completely deregulated—including the straightforward resale of circuits which has resulted in a rapid growth of a great number of services. The range and variety of the services on the telephone network which can be called VANS is enormous—from simple voice services like telephone answering to the sophisticated data communications being used for electronic banking.

The first value added service provider to be given a licence in the U.S. was Telenet Communications, now part of General Telephone and Electronics, in 1973. The main service offered by GTE-Telenet is a packet-switched data network which allows different computers and terminals to communicate with each other.

Other major suppliers of VANS in the U.S., include Tymnet, Graphnet, ITT, Darome Inc, ADP's Autonet, Compuserve, IBM Information Network and Solid State Systems.

VANS have been slower to develop in Europe mainly because they are normally a monopoly of the national telecommunication authority. Increasingly, the telephone authorities themselves are looking to VANS as a way of boosting revenues as they see the size of their networks nearing saturation.

A number of European PTTS have started introducing services such as videotex (like Britain's Prestel service), packet-switched data networks, electronic mailboxes, radio paging, automatic credit card verification and video-conferences.

The greatest growth in VANS is expected to come in Britain as a result of a considerable liberalisation, part of wider opening of the UK telecommunications. The liberalisation has brought a swift reaction from British Telecom which has introduced a number of new services.

In addition to its pioneering work with Prestel which is now just profitable BT has launched a number of new services under the BT Spectrum banner. The first was Telecom Gold, a joint venture with ITT Dialcom of the U.S. to provide an electronic mailbox. Other new services include Telecom Silver (credit card verification), Telecom Red (telephoned based security alarms), and Telecom Tan (computer assisted telephone marketing).

BT's most ambitious VANS was a proposed joint-venture with IBM which would have provided a sophisticated system providing "managed data network services" such as advanced electronic ordering, billing and payment systems.

After strong representation from a number of potential competitors and objections by the new regulatory body the Office of Telecommunications, the Government rejected the proposal.

ICL, the British mainframe computer company recently bought by Standard Telephones and Cables, is co-operating with AT&T in the provision of VANS. ICL is to buy equipment from AT&T as well as link its UK network with the U.S. telephone giant's Net 1000.

ICL intends to provide a network to members of the Aryicle Numbers Association to communicate with each other electronically. This would mean retailers and suppliers would be able to exchange orders, invoices and credit notes with each other electronically.

A number of other companies have applied for licences to provide VANS in Britain and several are in service. These include:

- Electronic mailboxes such as Easylink, run by Cable and Wireless and Western Union, Comet run by Istel part of BL, One to One owned by Kensington Datacom and WINC from MDS Computer Systems part of Mohawk.
- Automatic ticker reservation such as Travicom, Holoday Master and Ticketmaster.
- Videotex companies offering and using videotex (viewdata) services include ADP Network Services, AVS, Debenhams, Istel and Datavision.

Frost and Sullivan expects some sectors of VANS will be both large and achieve a very high rate of growth in the second half of the 1980s. The company says that text and message services will show the highest growth from total revenues of $20m in 1984 to $1,250m by the end of 1990.

On-line databases are also expected to show a similar strong growth from $370m in 1984 to $1,320m by the end of 1990.

Definition

The problem which faces all countries — but particularly Britain at the moment—is defining VANS and deciding where a service stops being Value Added and starts being part of the basic telephone system. The point is critical because if the line is not drawn somewhere it effectively allows companies to compete to provide basic network services.

In the U.S. the Federal Communications Commission eventually gave up trying to define the border between computing and communications.

* *Value Added Networks in Europe is available from Frost and Sullivan, 106 Fulton Street, New York, New York, or 104-112 Marylebone Lane, London W1.*

UK Operators of VANS

Company (and name of service)	*Category of Vans*
ADP Network Services	Mailbox, Viewdata
AVS (Context)	Viewdata
Baric Computing Services (Holiday Master)	Automatic ticket reservation and issuing
British Telecom, Business Switchboard + Cable + Satellite Telecommunications (Spectrum services + Prestel)	Various
Cable and Wireless (Easylink)	Mailbox (TWX forwarding)
Darome International (The Darome Connection)	Conference calls
Datavision Telesystems	Viewdata
Datec (Envoy)	Mailbox
Datec (Viewbase)	Viewdata
Digital Paging Systems, Paging system	
Essex Telecommunications, Common base station	
Istel (British Leyland) (Comet)	Mailbox
Istel (Viewshare)	Viewdata
Kensington Datacom (One to One)	Mailbox
MDS Computer Systems (WINC)	Mailbox
Nomura International (Capital)	
NVA Consultants	Viewdata
Ocean Transport and Trading	Viewdata
Seeboard (Credit and load management system)	
Telephone Broadcasting Systems (Telemessaging)	Telemarketing
Ticketmaster (Ticketmaster)	Automatic ticket reservation and issuing
Automatic ticket reservation and issuing	
Travicom (Travicom)	
Vitel Group	Viewdata

Source: Department of Trade and Industry

UK value-added network services

There were 426 registrations under the VANS general licence as at August 31 1984

Services: (some companies provide more than one service):	
Automatic ticket reservation and issuing	8
Conference calls	7
Customers data bases	27
Deferred transmission	32
Long term achiving	23
Mailbox	40
Multi-address routing	31
Protocol conversion between incompatible companies and terminals	43
Secure delivery services	16
Speed and code conversion between incompatible terminals	28
Store and retrieve message systems	
Telephone answering, using voice retrieval systems	54
Telesoftware storage and retrieval	15
Text editing	17
User management packages eg accounting, statistics etc	29
Viewdata	32
Word processor/facsimile interfacing	24

Source: Department of Trade and Industry.

BT's revolution has some way to go

OF ALL the changes which have taken place in the British telecommuni¡ations industry since the Government began its liberalisation programme in 1981, probably none has been more dramatic than the upheavals in the organisation and operating methods of British Telecom.

BT is in the midst of something of a management revolution, intended to transform is from a notoriously inefficient civil service bureaucracy, ingrained with a rigid rule-book mentality, into a more tightly-run commercial enterprise which responds aggressively to market opportunities.

The transition still has a long way to go. Many parts of BT are still inconsiderable turmoil, as its sometimes bewildered staff struggle to adjust to its new role. The quality and reliability of its service—which must contend with the legacy of an antiquated public network —continue to arouse criticism, too.

British Telecom

GUY DE JONQUIERES

A blitz on telephone installations has cut the waiting list from 200,000 to around 2,000 in three years, and many of BT's business customers say that it is visibly making a greater effort than in the past to meet their needs.

It has also sharpened up its marketing. It has launched a *flurry of new services, such as* high-speed data and satellite links, and has moved aggressively to consolidate its position in the apparatus supply market. Too aggressiviey, according to some competitors, which complain that BT has used deep price cutting and other questionable practices to win orders.

Initiative

The central thrust of the management philosophy implemented by Sir George Jefferson since he became BT's chairman in 1981 has been to break down the highly centralised organisation into a number of devolved "profit centres" and to encourage managers to take the initiative in running their businesses.

The first phase of the reorganisation, begun in 1982, was to split BT into five divisions. They are:

● **Local Communications Services (LCS):** By far the biggest division, employing about 200,000 of BT's 240,000 staff, and runs the local telephone network. Responsible for providing most customer apparatus, billing, operator services and callboxes.

● **National Networks:** Runs the trunk network and supplies equipment to large businesses and for services including leased circuits and telex.

● ***BT International:*** Operates the highly profitable international services.

● **BT Enterprises:** Handles the procurement of customer apparatus distributed by BT and a variety of competitive services offered outside BT's public network function. These include mobile radio, Prestel videotex and Yellow Pages.

● **Development and Procurement:** The purchasing arm responsible for procuring most of the equipment used by BT itself. It also runs the development laboratory in Martlesham, Suffolk.

Substantial changes have been made within the divisions themselves. LCS, for example, plans to strip out a whole layer of regional management and replace the country's 61 telephone areas with 24 districts. A primary objective is to reduce the dependence of operational management on BT headquarters and to increase responsiveness to customers at a local level.

Not surprisingly, perhaps, radical changes rammed through at such speed have sometimes created internal conflicts and loose ends. The precise balance of authority between central headquarters and the devolved operating units is not always clear, and overlaps have arisen between and within the major divisions. One recurrent issue has been how responsibility for apparatus marketing should be divided.

Nonetheless, the prevailing view at the top of BT is that such tensions will resolve themselves in time, and that a period of adjustment through trial and error is inevitable while managers accustom themselves to their new-found autonomy.

Priority

BT's immediate priority is to get a firmer grip on the public network business which provides *most of its revenues.* It has been granted what amounts to a five-year grace period, during which its only competitor will be the privately-owned Mercury network.

Like most telecommunications monopolies, BT has historically subsidised its unprofitable local network business out of revenues from its highly lucrative long-distance and international services. Because competitors will focus on those services on which BT earns its biggest margins, the company must reorganise its revenue structure.

This is a two-pronged process. One task involves "rebalancing" tariffs, so that they are related more closely to the costs of the services concerned. BT has already begun this process, with the consequences that tariffs for residential services are rising faster than for long-distance services.

To carry this objective through, however, requires much more precise financial information than BT ever needed as a nationalised monopoly. The company is making a major drive to instal proper internal accounting systems to provide a clearer picture of where it makes and loses money.

The second prong is to reduce costs and improve efficiency. BT is still saddled with a much older public network than most of its counterparts in the rest of Europe. By using the latest digital technology in its network, Mercury should benefit from significant costs advantages.

New orders

BT has responded by stepping up sharply orders for System X digital exchanges, which will require far less maintenance than the old mechanical equipment they are due to replace. It is also taking a much tougher value-for-money approach to its main suppliers: one result is its recent decision to seek international bids for a second exchange system to compete with System X.

It also plans to automate much of its internal administration, most of which is at present performed manually. It aims to invest well over £100m in the next few years to computerise its entire customer service system, to enable its staff to obtain a wide variety of customer information on desktop terminals.

BT has reduced its staff by 15,000 over the past three years. But it still looks heavily overmanned by international standards, with a customer/employee ratio less than half of Bell Atlantic in the U.S. and only two-thirds that of the French telecommunications authority. There are indications that it may need to resort to compulsory redundancies to streamline its labour force in the next few years, instead of early retirements and attrition, on which it has largely relied so far.

BT will also be closely watched in the coming months for signs of how it plans to expand into new areas. Its top executives have emphasised that they see the company developing in future beyond its traditional role in communications transmission and moving more strongly into fields such as information processing and value added networks.

They are convinced that, to do this successfully, BT must establish an international presence, particularly in the U.S. It was difficult for BT to diversify overseas while it remained a nationalised industry. However, privatisation has opened the door to such expansion, and BT is studying closely prospects for acquisitions, joint ventures and other forms of link-ups.

PABX sales in the UK

Year to December 31	1978	1979	(£m) 1980	1981	1982	1983 1st half	1983 2nd half	1983 total	1984 First half
UK manufactured PABX sales by BT	6.3	18.2	33.2	81.1	86.8	48.3	41.9	90.2	48.1
UK manufactured PABX sales direct to customers	26.6	26.4	48.6	56.0	64.7	32.7	27.2	59.9	32.6
Total UK manufactured PABX sales	32.9	44.6	81.8	137.1	151.5	81.0	69.1	150.1	80.7
Proportion of electronic exchanges	9%	26%	34%	50%	95%	99%	99%	99%	100%

Source: Scott, Goff, Layton

UK PABX suppliers

Sub-100 line PABX market in 1983

	Sales £ million	Market share by units (11,900 units)
BT	90	80.0%
Norton	3	19.5%
STC (OCS 300)	1	0.5%
	94	100%

Large PBX market in 1983

	Sales £ million
BT	38
Telephone Rentals	10
Plessey*	7
IBM	7
Harris	3
STC	3
Ferranti GTE	3
Thorn Ericsson	2
GEC, Mitel, Philips	2
	75

* Plessey also supplies BT and Telephone Rentals

Source: Scott, Goff, Layton

Rival struggles to take wing

Mercury

JASON CRISP

"THE MYTHICAL Mercury was the Roman figure of eloquence and skill and had wings on his hat and heels; we, too, offer our services as messengers of the Gods and will be developing wings in places he did not think of," says Sir Douglas Lowe, chairman of the terrestial Mercury.

There is no shortage of people wanting to see Mercury fly in the commercial sense, not least because it has provided a remarkably effective stimulus to British Telecom.

This new rival for BT will provide a competing telephone service and is the central plank of the Government's policy to liberalise telecommunications in Britain.

Before Mercury was set up, business customers complained bitterly about the lack of high speed data communications from BT, the restricted range of apparatus that could be used on the network and the inordinate delays in providing private circuits. But in the last three years, BT has been responding to the threat of competition with an alacrity no-one dreamed it possessed.

The speed of BT's response has forced *Mercury itself to rethink its own position several* times. It started with the intention of providing point to point high speed data links for large organisations in England.

Today, it is planning a switched voice and data service for a much wider range of organisations and, with a strong emphasis on international links as well, is spreading its network into Scotland and Wales.

Mercury recognised that it could not be commercially successful if it was restricted to selling leased lines as had been originally envisaged and which was specified in its original operating licence.

"International and public switched services were a substantial source of revenue for BT and if Mercury was to compete it would need to grow in these areas as well," says Sir Douglas.

"Efforts to persuade the Government to extend the Mercury licence in these directions evoked counter arguments from BT that the 'goal posts were being moved'," he adds.

The new licence, published at the end of last year under the 1984 Telecommunications Act gives Mercury broadly similar rights to BT.

Mercury was set up in early 1982 as a joint venture between Cable and Wireless, BP, and Barclays Merchant Bank. In May last year, Barclays Merchant Bank sold its stake to the other two partners, and in August Cable and Wireless bought out BP, paying about *£30m for the 50 per cent stake.*

One result of the change in ownership is that Mercury is now forging a much closer relationship with Cable and Wireless which has considerable telecommunications expertise outside Britain.

One result is that Mercury is likely to be closely linked to Cable and Wireless' international operations such as Hong *Kong. Effectively, it also marks* Cable and Wireless' re-entry into the UK telecommunications market for the first time since the late 1940s.

Currently Mercury is still building its figure of eight trunk communications loop in England which goes from London to Bristol, Birmingham, Manchester, Leeds, Rugby and Nottingham.

Networks

In addition, Mercury has built a local distribution network in London which uses microwave and is in the process of buying the 160-mile pipe network of the London Hydraulic Power Company. The pipe network covers much of the City and West End of London and will provide Mercury with a valuable way in which to reach its customers by cable.

The first links are being made with microwave and then followed with optical fibre cables which are being run alongside British Rail's tracks. The London - Birmingham - Manchester microwave section has been completed and the figure of eight is scheduled to be finished by the end of next year.

It has taken Mercury rather longer to get into operation than was first anticipated. Delays have ranged from internal problems to industrial action by the main BT union, the Post Office Engineering Union and planning refusals for microwave towers.

Most of these hurdles have now been overcome as Mercury has reached an out of court settlement with the POEU and the Environment Secretary has intervened to resolve the dispute over planning permission.

With the basic network only partly complete Mercury is now able to disclose a growing list of customers. These include:

● The Charing Cross Hospital Group which uses Mercury to transmit video pictures between hospitals such as the Charing Cross itself and the Middlesex for teaching.

● The Stock Exchange, stockbrokers Phillips and Drew and Lloyds Bank International will use Americall, a telephone and data service via satellite between London and New York run as a joint venture between Mercury and Western Union.

● Racal Vodafone, the new cellular radio mobile telephone network, is to use Mercury.

● Customs and Excise and the Central Office of Information are the first Government customers willing to be named and are using Mercury for internal voice links within London.

● Ocean Containers Ltd (OCL) is using Mercury to provide a link between London and Birmingham for voice, data and telex.

With most of its regulatory and political problems resolved and the basic network nearing completion Mercury now needs to expand its customer base rapidly if it is to survive the fierce competition from the newly privatised BT. It does still have to negotiate with BT on the critical issue of interconnection with its local network.

Mercury intends to specialise in high quality services and expects most of its business to come from four main areas:

● High quality transmission for major users of integrated voice and data services.

● The share use of its system by smaller businesses, using selected switched services.

● The transmission and switching of the new and fast growing value added network services.

● Specialised networks.

Mercury has a minimum of six years as the only direct competitor to BT's network services, although other competition may develop as the boundaries with value added services become increasingly unclear.

If it does succeed, it could become highly profitable in the fast growing areas of telecommunications. It may also become a model for other countries which want to stimulate competition without going as far the open house rules in the U.S.

Experts to study world developments in technology

Learning how to adjust to the changes

AN EXPERT committee is expected to get down to the task this year of studying how West Germany should face up to the telecommunications challenges of the future.

The Federal Government in Bonn decided some time ago that it wanted a committee to look at the technological changes shaping up and at the steps already taken abroad to adjust to them.

West Germany

JOHN DAVIES

Among other things, the committee is likely to look at the deregulation of telecommunications in the U.S., with the splitting up of AT&T, and the measures adopted in the the measures adopted in the UK UK to envigorate and partly privatise British Telecom and to allow competition in communications from such concerns as Mercury.

Although the West German committee will have a wide field to study, it is likely to attach importance to the framework within which the Bundespost, the postal and telecommunications authority, already operates.

The fact is that, while measures taken in the U.S., the UK and some other countries have been keenly watched in West Germany, there has been widespread caution about following suit.

Nevertheless, the setting up of the committee reflects some deep-rooted concern among users and equipment suppliers about the way the Bundespost has operated. It also indicates the government's awareness that information technology, with its rapid pace of change, is vital to shore up West German industry's competitiveness.

The Bundespost tends to hold firmly to a traditional view of its role as a supplier of basic communications services and is reluctant to yield to competitive influences before the political, financial and social consequences are weighed up.

The most vocal public criticism of the Bundepost has been directed at its role in promoting the "new media" of cable television and videotext (Bildschirmtext), both of which require major investment and are surrounded by some uncertainties.

Beyond this, critics have also queried the financial implications of the whole investment strategy.

Moreover, the Bundespost is widely accused of being bureaucratic and inflexible, in addition to charging some relatively high tariffs.

While the Bundespost has made some concessions to criticism, it is pressing ahead determinedly with its basic strategy.

In view of the changing world picture of telecommunications, however, the Federal Government announced nearly a year ago that it would appoint an expert committee of inquiry with members representing business, political and scientific interests. It has been finalising the choice of committee members in recent weeks.

Liberalisation

The committee is to examine how to liberalise the market for end-user telecommunications equipment, in view of the rapid innovation and intense competition. It is also to consider whether organisational changes would enable the Bundespost to react more quickly to technical and economic developments.

Dr Christian Schwarz-Schilling, the postal minister, believes that the committee's recommendations are likely to lead to legislative measures in the next parliament, due to be elected in 1987.

In his office overlooking the Rhine river in Bonn, Dr Schwarz-Schilling voices reservations about the effects of some deregulatory moves abroad. Referring to developments in the U.S., he says he is anxious to avoid a situation where individual telephone users face an increasing cost burden whil long-distance and commercial users gain.

He also feels that proposals for the Japanese telecommunications authority may in fact strengthen its monopolistic position because of its role as a supplier of equipment.

In his eyes, the essence of the Bundespost's role is to provide the country's communications network. "We will retain that," he says categorically.

He believes the appropriate place for private competition is the market for user equipment, with the state refraining from producing such equipment.

"We want to offer everyone the same transport medium," he says. "We believe that through interface standardisation, everyone will be able to use the communications network as a transport medium under the same conditions. Competition in user equipment will really become possible then."

Dr Schwarz-Schilling says that he came to office determined to administer the Bundespost flexibly within the existing legislative and regulatory framework.

"I want to use these laws very flexibly where there is room for manoeuvre," he says. "The previous government used these laws to strengthen the Bundespost monopoly and to limit the scope for private interests."

As an example of a more liberal private enterprise approach, he cites the current policy of allowing private interests the sole right to connect up coaxial cable to TV sets within dwellings, once the Bundespost has brought the cable to the dwellings.

On the Bundesposts's purchase of telecommunications equipment, Dr Schwarz-Schilling says he is favour of opening up West Germany to international competition—but on the basis of mutual opportunities.

"We will do it only if West German industry has the same opportunities elsewhere. We cannot have liberalisation unless the same opportunities exist in other countries," he adds.

Dr Schwarz-Schilling does not favour a strict separation of the loss-making postal area from the telecommunications services, whose profits subsidise postal operations as well as providing a contribution to government finances but he is favour of increased automation within the postal services to increase productivity and lower running costs.

Bundepost investment is being increased this year by 13 per cent to DM 16.7bn, including DM 12.1bn in the telecommunications division, with emphasis on outlays for the local exchange network.

Because of this heavy investment programme (up 13 per cent to DM 16.7bn in 1985) Dr Schwartz-Schilling sees no prospect of reducing the debt total, which is heading steadily upwards to an estimated DM 58.3bn this year.

"It is important to introduce new technology to benefit the whole economy, rather than to begin cutting our debt and investing less," he says.

Risks

The Bundespost provides a useful contribution to government finances (DM 4bn in 1983) and reports an overall net profit (DM 2.2bn for 1983) but critics see financial risks in its wide-ranging activities and query the profit in relation to investment.

Dr Schwarz-Schilling has come under the heaviest fire, however, for his decision to force the pace of copper coaxial cabling, which involves outlay of DM 1bn a year.

One line of criticism argues simply that cable TV does not have and will not have great demand. Other critics, notably Dr Franz Arnold, a former Bundespost executive, argues that the Budespost should leave such a costly project to private interests, while focusing more attention on advanced technology, such as digitalisation of the network.

Critics also argue that optical fibre cable should have higher priority.

The Minister endeavours to rebut these arguments by claiming that cable TV will never have a large demand until the cable network is in position and adequate programmes, including private ones, are offered.

On digitalisation, he points to the recent award of contracts to Siemens and SEL, the local subsidiary of ITT of the U.S., to go ahead with installation of *digital switching exchanges in* pursuit of the Bundespost's plan to complete the changeover from analogue to digital switching by the year 2020

(On the other hand, critics argue that digitalisation is not proceeding as fast as it should, partly because of relatively new, though technologically outdated equipment still in use.)

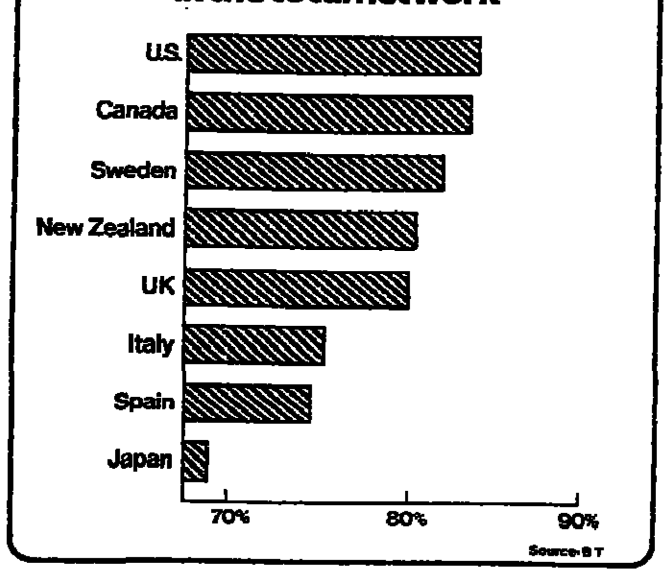
On optical fibre, the Bundespost has decided to bring forward its plans by starting to instal local optical fibre networks in 14 cities from 1986. This is in addition to the optical fibre "highway" being extended from Hamburg to Munich, with the first 160 km stretch from Hamburg to Hanover being completed last November.

In line with the strategy of providing a complete state-owned network as a communications carrier, the Bundespost is pushing ahead with plans to introduce an Integrated Services Digital Network (ISDN) by 1988, bringing together telephone, telex and data transmissions. Beyond that, it envisages by 1992 an integrated broad band system also encompassing video transmissions.

The Bundespost's plans thus range all the way from financial services (it is determined to maintain the competitiveness of the Post Office giro) to communications satellites (the first DFS-Kopernikus satellite, to be built by a West German consortium, is to be shot into orbit in June 1987).

The Bundespost's videotex system has many teething problems, but it has its enthusiastic supporters, Diebold, the Frankfurt-based management consultants, recently forecast that videotex could have 2.8m users by 1990 and provide a large market for equipment suppliers.

Proportion of residential connections in the total network



Changes proceed at a glacial pace

Italy

JAMES BUXTON

ALMOST imperceptibly, Italian telecommunications are changing. Decisions are being taken, and past decisions being implemented. But there is certainly no field—whether it be efficiency of services or deregulation—in which Italy's Telecommunications can be said to lead Europe.

Indeed, so great is the contrast between the glacier-like process of change in Italy in telecommunications and the fast-moving scene in Britain that the actions of the British government—notably the privatising of British Telecom—are followed with almost uncritical awe on this side of the alps.

There is considerably awareness in Italy of the vastly expanded horizon which telecomunications now have, thanks to digital switching, data transmission networks and all the wonderful equipment that the subscriber can theoretically attach to them.

An elongated country with millions of small and medium-sized businesses could be an ideal market for advanced telecommunications and Italy has a history of skipping generations in technology. For example, it moved onto the telephone in a big way without ever establishing an efficient postal service. And, in shops, it is advancing straight from keeping cash in a drawer to using computerised cash registers.

In a past burst of energy in telecommunications, Italy became the first country in Europe to enjoy universal subscriber trunk dialling. But then the telephone system began to decay in the later 1970s as successive governments held down charges for political reasons.

Creaky functions

As a result, Italy in 1982 had 30 per cent fewer telephones per head than West Germany. Almost all its exchanges are electromechanial. There are only half hte number of telex subscribers that there are in France and a third of the number in Britain. Almost all Italian services function creakily, and the telephones in Rome almost invariably break down when the autumn rains arrive.

The basic problem is probably that Italy has never had one single, powerful telecommunications utility; instead, the operat-system is divided between: the ing of the telecommunications Ministry of Posts and Telecommunications; an agency of the ministry called ASST; SIP, which belong to a state holding company named STET; and Italcable, also part of STET.

SIP does, in fact, handle the bulk of telephone calls and is the only interface with the public inthe field of telephones. But it has to share its revenues with other organisations, and has no responsibility at all for telex, which comes directly under the ministry of PTT.

The system would seem pointlessly complex if one did not have to take into account the fact that power in Italy is divided between a number of political parties. Almost every sector of Italian life is politicised, and telecommunications is no exception.

However, after years of negotiations a new agreement was signed in the autumn of 1984 between the PTT and SIP and Italcable. The agreement gives SIP responsibility for all switching (while ASST retains transmission between the major centres); SIP will be allowed to sell as well as lease telecommunications equipment; it will have a slightly less cumbersome revenue-raising procedure; and it will be allowed to operate and market Italy's ISDN system, Itapac.

Responsibilities

Nevertheless, the PTT will retain teh telex, and will have the right to establish electronic mail systems. The PTT will still handle calls to European countries, while Italcable will handle most other overseas calls—thus still depriving SIP of revenue which other telephone utilities find very useful.

Even so SIP's position is being enhanced, especially since it will have responsibility for running Italy's ISDN system—Itapac, a packet switching network the basis of which is now scheduled for completion by the end of 1985.

The introduction of Itapac should give an enormous boost developed and marketed. Can to the development of telematics how the value-added services are in Italy. But much depends on SIP do this on its own?

The answer is one which SIP and its parent company, STET, are still pondering. Earlier in 1984, it came close to forming a joint venture for the development and operation of the servies with the U.S. giant, IBM. Then the top management at STET was changed and the company settled down, under its new managing director, Sig. Giuliano Graziosi, to study two rival proposals: one from IBM and one from Olivetti, the Italian electronics company, which is one-quarter owned by AT and T.

The very idea that IBM might win such a contract provoked bitter attacks on the U.S. company fro mpoliticians and from Olivetti itself. It was argued that IBM would be able to impose its own SNA (systems network architecture) on the itnerface between Itapac and the user, thus obtaining a considerable commercial advantage since IBM equipment would be instantly compatible with it.

It was exactly this prospect that made the British Government reject the idea of IMB entering a similar deal with British Telecom—a decision that was noted with interest in Italy. It remains unclear whether either of the two companies will become involved in Itapac, or whether another company might be brought in.

At a time when some telephone utilities are looking beyond their traditional suppliers of public switching equipment, no such change is obvious in Italy. Indeed, SIP's main supplier, Italtel, is also part of the STET group. Like its rivals in other European countries, Italtel has been developing its own digital exchange system, called Protel, but is doing so in a joint venture with GTE of the U.S. which has a manufacturing subsidiary in Italy and Telettra, the telecommunications subsidiary of Fiat.

The first fruits of this arangement are now being enjoyed. The first two of Italtel's Proteo UT 10/3 exchanges have been installed for the SIP and GTE's bigger version (for larger exchange needs) will shortly follow—the Protel system has also won three foreign orders—in Mozambique, Albania and Guatemala—for a total value of $80m, much of which will be provided in aid by the Italian Government.

Sra Marisa Bellisario, Italtel's managing director, is as aware as anyone else of the weaknesses of the European public switching equipment industry with its massive duplication of effort, its protected national markets and the different technical standards which each country employs.

She believes that the most practical solution is for the manufacturers in the major countries to work gradually towards making their exchanges compatible with each other, so that in the end Europe will arrive at a system that all countries can adopt.

Italtel has begun this policy by making an agreement with the French company CIT-Alcatel under which the two companies will collaborate on designing a compatible user card—the hardware by which the exchange is connected to the subscriber—and other parts of the equipment.

Pact extension

She hopes to extend the agreement to Plessey of the U.K. and Siemens of West Germany. She is also pressing for the EEC countries to agree on common technical standards for telephone equipment.

In Italy, Italtel, GTE and Telettra are assured about 85 per cent of SIP's orders for new exchanges over the next decade. The Government's official strategy was to choose a second exchange from one of Italtel's two domestic rivals, the subsidiaries of Ericsson and ITT.

But little has been done to pursue this plan, which also faces serious practical difficulties: what would happen to the company which did not win the order?

In particular, what would happen to its Italian labour force?

Although no formal decision has been taken it seems likely that SIP will order digital exchanges from both companies and that in the future the products may be modified so as to constitute a single switching system.

There is at present no question of opening up the Italian market to any companies that are not already represented and manufacturing in Italy.

Hopes now being dashed

France

DAVID MARSH

WHEN THE Socialist Government came to power in 1981, telecommunications was one of the few industries that did not need to have its own sectoral plan.

Technological advance and employment prospects, it seemed, were assured by the breakthroughs already achieved under the previous government from the mid-1970s onwards—progressive installation of digital exchanges (earlier than other European countries), the setting up of additional consumer-based services such as videotex, and relatively sound business opportunities abroad.

Nearly four years later, the outlook is a great deal less comforting. The year 1984 was one that the French telecommunications industry will want to forget: the only consolation is that, after the dashing of so many hopes, 1985 can hardly be worse.

Success stories

France can still bank on a number of success stories. With the launch last year of the Telecom 1 satellite, France has a European lead in commercial satellite communications—although the venture still has a long way to go before it can be termed a financial success.

In areas like electronic banking, and in the distribution of simple videotex systems for households, France is also increasing the number of consumer products using advances in telecommunications.

Additionally, Alcatel-Thomson, the grouping formed from the pooling of the public telecommunications interests of the Compagne Generale d'Electrite (CGE) and Thomson groups under their September 1983 accord, is still, on paper at least, the world leader in digital public switching equipment.

In spite of a dsappointing export performance lately, and a slump in domestic switching orders, Alcatel afficials like to point out that the combined E.10 and MT ranges have been installed or ordered to the tune of 20m lines in 44 countries—compared with the single export order received, for instance, for Britain's (much newer) System X.

That said, 1984 has seen a series of setbacks which has badly hit confidence in the industry. Perhaps the gravest failure on the international front has come from British Telecom's decision in October not to chooose the E.10 even in *pre-selection bidding for* foreign equipment to be installed laongside System X in the UK.

This decision, which came after a year of top level contacts between British Telecom and the French Direction Generale des Telecommunications (DGT), as well as exhaus-UK and French industries tive exchanges between the involved, dealt a major blow to French hopes of securing more foreign orders through reciprocal openings of EEC telecommunications markets.

Embarrassingly for France, the British decision was motivated as much by BT's reluctance to buy equipment based on technology that is 10 years old as by Alcatel's unwillingness (given capacity problems in the French industry) to open up some production facilities in the UK.

Significantly, all three of the groupings selected by BT to bid for contracts, AT&T/Philips, Northern Telecom and L. M. Ericsson, have indicated their willingness to manufacture in Britain.

The BT choice was also prompted by its desire, just a month before its huge share flotation in November, to carry out its industrial decisions on the basis of hard-headed business priorities rather than for the political reason of developing Franco-British links.

The decision did not go down well in Paris, where government officials in the months of prior negotiations showed little understanding of the effect denationalisation would have on BT's attitude. Indeed, in France where the Industry Ministry's increased reliance on cash from the DGT to help fund industrial electronics investment has intensified government/PTT links, denationalisation would plainly be impossible—even with a change of government—for several years.

Jacques Dondoux, head of the DGT (who has made no secret of his misgivings over international telecommunications deregulation), publicly berated Britain for its "insular" approach in a speech in London last month when he said he was astonished at BT's failure to include EEC manufacturers at its tender.

UK setback

The British setback has been compounded by failure of French initiatives in other international fields. An ambitious programme of technical collaboration and reciprocal equipment purchases with West Germany has failed to get off the ground. Plans to set up a joint radiotelephone project between the two countries have been put back until the end of the decade while the two sides work out a new basis for the scheme based on digital technology.

Proposals for co-operation with Italy in the fast growing business of integrating telecommunications and data processing systems had to be watered down when Olivetti showed its deep reluctance about forging too close links with state-controlled French industry. A deal signed between CGE and Olivetti in November 1983 effectively cut to 10 per cent from 33 per cent the stake of French public sector companies in the Italian data processing leader.

With co-operation restricted to a somewhat vague joint venture to produce electronic typewriters, the accord was swiftly followed by AT&T's taking of a 25 per cent stake in Olivetti in a link-up which plainly fitted in much more with the Italian company's aims of advancing on the world stage.

French companies have remained signally absent from the welter of international alliances being forged between computer and communications companies around the world. CGE has been adopting a step-by-step strategy of gaining a foothold in the American market by buying stakes in smaller specialist concerns in areas like private telephone switching. It has also been making a big effort to market its modified E.10 system on the U.S. market, with 38 systems now ordered.

Although CGE executives pour scepticism on deals such as the AT&T/Philips link-up, a clear impression remains that state ownership of the main French telecommunications companies is a major impediment to cross-border collaboration accords—and that France may thus be falling behind in the international race.

At home, the gloom over the industry has been best illustrated by the recent protest marches around major telecommunications factories in Lannion, Brittany, organised by workers angry over planned workforce cuts in what used to be regarded as a growth sector.

Alcatel-Thomson is pushing through workforce cuts of about 4,000 to adapt staff levels to improvements in productivity and stagnating home demand. With France now losing out from its relatively early switch to digital equipment, new orders from the PTT for switching equipment are due to fall off from FFr 5.9bn in 1983 to FFr 4.5bn in 1986.

Growing-up pains for state infant

Ireland

BRENDAN KEENAN

IRELAND'S NEW state-owned telecommunications company, Telecom Eireann (TE), has had a difficult first year of existence, since it was hived off from the former Department of Posts and Telegraphs.

The long-suffering customer remains sceptical about TE's promise to create a first-class service. There is a lack of overall agreement on exactly what the Irish telecoms service should provide, and an unseemly row has broken out over money between TE and the Ministry for Finance.

It is important that these difficulties should be overcome because Ireland has the potential to develop, in the words of TE, the best telecommunication's service for its size in the world. The I£1bn development programme of the last five years catapulted the infrastructure from the technology of the 1940s to that of the 1990s.

The development programme took the bold decision to instal a digital trunk switching network. Seven of the eight key exchanges, supplied by L. M. Ericsson and CIT-Alcatel are already in service. Fifty per cent of subscribers should be connected to digital exchanges by 1986. Ireland's *first* earth station was opened recently, connected to the Intelsat system.

Eirpac launched

The first significant results of this high-technology investment should be seen when TE launches its packet switched data network. This will be known as "Eirpac" and will be similar to the French "Transpac" system.

TE agonised a good deal about the system, wondering if Irish industry and business is sufficiently developed to provide a commercial customer base for the service. An experiment with selected companies has convinced TE's chief executive, Mr Tom Byrnes, that demand may actually exceed their previously best forecasts.

The development of the system has also enabled TE to provide telex on demand in most parts of the country and to introduce a broadcast telex service, with simultaneous transmission to a dozen subscribers. In the long-term, the company is looking at the potential in the fact that much of the east coast is already cabled to receive British TV programmes. *Upgrading the cable system to* make available a whole range of customer services.

Mr Byrnes believes that the combination of a largely digital telephone network and the Eirpac system could give Ireland an ISDN system (integrated subscriber digital network) in which voice data, image and text could all be trnasmitted on a single network. There are, however, serious problems to be overcome before this ultimate in telecom technology is achieved.

The biggest practical problem is to be found in Dublin, where years of haphazard urban planning and under-investment in the service have left the city with an inadequate network. Unfortunately, for TE, most of the population, most of the industry and most of the commentators and lobbyists live in the greater Dublin area.

Mr Byrnes accepts that it will take several years to bring standards in the city up to those in the rest of the country—a neat reversal of the usual situation.

Instead, Dublin is to have a cellular mobile telephone system, supplied by Ericssons after some tough re-negotiation of the original contract. The idea is that the business user who must have a telephone, and is prepared to pay for it, will be able to make use of the mobile system while waiting for his oermanent installation.

The more fundamental problem concerns the nature of the new service itself. The average citizen perceives the I£1bn programme as being designed to provide him with a reliable telephone on the hall table. In fact, there can only be a return on the investment if it not only sells to existing customers but generates new information technology business in Ireland, both home-grown and attracted from abroad. This is well understood, but the planning for it may leave something to be desired.

The development programme itself is a case in point. Companies such as Ericsson's CIT-Alcatel and AT & T established or acquired Irish partners to provide jobs and technology in Ireland supplying equipment. Yet, for such a large procurement, and despite the successes of individual companies like Lake Electronics, there was little effort to promote indigenous supply companies during the programme.

TE remains a monopoly, with a control over the supply and installation of equipment which can be heavy-handed and bureaucratic. There are signs of a more open approach, however, as the new company grows in confidence.

Companies such as Cognotec, which provides an Irish-based videotex service, believe that, despite the restrictive legislation, the Irish network will, in fact, compare favourably with other European PTTs in terms of liberal access for private enterprise services.

TE itself is willing to join forces with private companies in development of services. It has formed a joint venture with ITT World Directories, primarily to produce Ireland's Business Directory, but with longer-term goals for both partners. TE will have access to ITT's expertise in directory-related services, while the U.S. company wins a link to the major European telecommunications boards on which TE sits as a national representative.

The formation, separately, of ITT Information Service Ireland (ITTISI) also suggests that ITT intends being involved in the development of mail and marketing services through the Irish network.

Consortium

TE is also involved with the national broadcasting service, RTE, Allied Irish Investment Bank and Guinness Peat Aviation in a consortium to operate an Irish direct broadcasting satellite (DBS). The consortium, known as Westsat, has also been involved in discussions with Spain and Portugal, which have been allocated the same orbital position, to see if co-operation would make the project more attractive commercially.

The Irish, while retaining a state monopoly, have shown some ingenuity in tapping private funds for telecommunications development. ITI (Irish Telecommunications Investments) raises long-term loans, backed by Government guarantee, to fund the I£300m programme of the next five years.

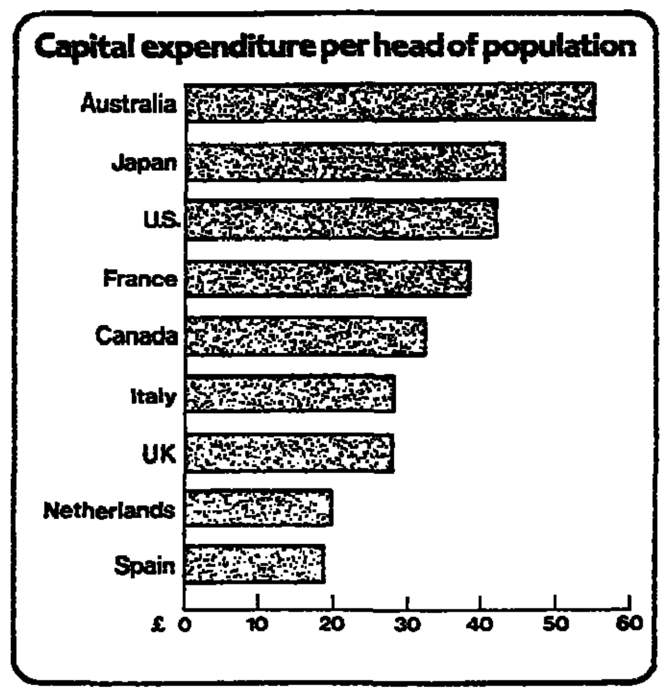
The real danger to all this potential comes from an apparent lack of overall agreement as to how the system is to develop. The row between Mr Byrnes, his chairman, industrialist Mr Michael Smurfit, and the Finance Minister, does not augur well.

The Minister, Mr Alan Dukes, is reluctant to forego the I£100m which the former P&T provided in revenue to the Exchequer. Messrs Byrnes and Smurfit argue that the service was, and is, a net lossmaker, although this did not show up in the system of Government accounts. They claim that to insist on payments on this scale to the Exchequer will condemn TE to chronic loss-making and threaten the development plans.

Mr Byrne's blunt attacks on *the Department of Finance*—he is an Irish-American trained in the rough-and-tumble of IBM—has ruffled Irish feathers, more used to smooth handling. The danger is that both Mr Byrne and Mr Smurfit could quit if they believe TE is to be merely a tax-gathering organisation.

On the other hand, the Government is understandably reluctant to give TE a free hand investing much-needed cash in creating a system which Ireland may not really need. The Irish have always had problems reconciling central government and state industry, and the result has been a plethora of loss-making companies with borrowings in excess of I£2bn.

With so much money already spent, it is high time the Government had a clear picture of how it wants its telecom baby to grow up.



Telefonica's problem is financing growth

Spain

TOM BURNS

THE GREAT deregulation debate in national telecommunications markets does not apply in Spain. The Compañia Telefònica Nacional de España (CTNE), known nationwide as the Telefònica, was unique in Europe until the advent of British Telecom. Telefònica is, and has been throughout its 60-year existence, a private company with a mixed share-holding.

CTNE's executives believe that, by being a precursor over deregulation, the company has had an edge over other developments in the sector, notably over mixing communications and computing technologies and over establishing hi-tech manufacturing bases in joint ventures with international companies.

Deregulation, in Telefonica's terms, means, however, a close relationship with the Government. The Government in fact owns 47 per cent of CTNE's equity through the Central Bank of Spain and the public sector holding, INI. The company's chairman, is a Government nominee.

CTNE's mixed status has also meant a commitment to maintain a monopoly holding over the cable network. But there is, nevertheless, a flexible approach towards at some future point liberalising, for example, subscriber appartus.

Telefònica is a national institution in Spain, fundamentally because it is owned by so many people. To own a CTNE share *is, for a Spaniard, as much in* the natural order of things as is buying a ticket in the Christmas state lottery. The company boasts 750,000 or more shareholders and share distribution is extensive to a maximum degree: 56 per cent of the private shareholders own less than 200 shares.

Sr Luis Solana, Telefònica's chairman, says of the Telecom development: "It's nice to be copied." But he admits also that CTNE and BT will now be in tough competition on the capital markets.

"Our real problem is to finance growth," says Sr Solana. A national telephone company that seeks to be more than just a telephone service (and this is very much the case of Telefònica) soaks up finance, as Sr Solana puts it, "like a sponge."

The debate, according to Sr Solana, should not be over privatisation and nationalisation. In order to keep abreast a telecommunications company must raise capital and it can only do this in the way CTNE has traditionally done so and, as BT is commencing to do. Other national companies, he predicts, will sooner rather than later be forced to follow the lead.

The real issue is that whatever the public/private equity share, the telecommunications company must plan its investment strategy hand in glove with *the Government*. The mutual interdependenecy between the administration and the company is self-evidently necessary in the case of Spain where CTNE has taken upon itself the role of leading the hoped-for Spanish leap forward into the world of hi-tech.

The question

Once that is understood and the deregulation debate ends the immediate question concerns finance. BT has started trading just at a time when Telefònica is preparing to raise funds on the New York, the Tokyo, the Paris and the London stock markets. Foreign capital at present represents some 12 per cent of CTNE's equity and Sr Solana hopes to raise it to 25 per cent.

In the past year there have been encouraging signs. Foreign investors were active in 1983 on the Madrid Bourse and for every Pta 6 worth of CTNE stock traded there, Pta 1 belonged to a non-Spanish investor. Telefònica's shares represent a staggering 20 per cent of the total stock trade annually on the Madrid market. There is a certain amount of pride at the CTNE headquarters that the United Nations Pension Fund has bought into Telefònica to the tune of Pta 1bn.

It is not surprising that CTNE should prove a magnet for investors. The company represents 4 per cent of the gross *capital formation in Spain*, 2.7 per cent of the gross added value of all Spanish services and 1.5 per cent of that of all Spanish companies. With some justification, Sr Solana calls Telefònica "the locomotive engine of the Spanish economy."

Annual growth at Telefònica averaged 24 per cent in the 1981-84 period and investment grew at a yearly rate of 14 per cent. The present four-year plan through to 1988 maps out a total investment of Pta 929bn and guarantees an annual dividend of 11 per cent.

The coming years are the ones of the great leap forward. The conventional telephone service is not forgotten, as it cannot afford to be, in Spain: by 1986 the expectation is to have raised the 1982 statistic of 40 per cent of homes with a telephone in Spain to 50 per cent. But the jump comes in the other services: more than 4,000 videotex terminals in 1986, against zero in 1982 and more than 5,000 dataphone terminals, again from zero, in 1982.

The idea is that the public should see in Telefònica much more than just the phone. Sr Solana, a man of irrepressible energy, is visionary about what CTNE is all about: "Telefònica has to be associated with modernity, with development and with research."

Standard bearer

He is enthusiastic about the blurred lines between communications and computing. "IBM is now diversifying into communications and AT & T into computers," says Telefònica's chairman, to underline his point.

CTNE is determined to be well entrenched in the hi-tech sector and in this sense it sees itself as the standard-bearer for Spain. Sr Solana pulled off a major business coup in 1984 in the shape of a joint venture between CTNE and AT & T. The U.S. telecommunications and electronics group will establish a $200m semi-conductor manufacturing base in Spain and, by 1990, will be exporting from the projected plant in Madrid around 80 per cent of its production.

The Telefònica agreement with AT & T was a perfect marriage of convenience and both the Spanish company and the Madrid Government were willing to provide a generous dowry: AT & T provides 80 per cent of a $65m operating capital, while CTNE puts up the remaining 20 per cent. Official Spanish subsidies of $60m and state credits worth $75m make up the $200m total investment.

For the American group, Spain became its operating base for Europe ahead of Spain's expected entry into the EEC on January 1 1986. AT & T aims to build up a European market neatly dove-tailed with the Madrid industry ministry's national electronics plan that provides for $530m to be spent between 1985-88 to support high technology production in Spain for export.

The agreement confirmed the role that Telefònica is called upon to play in the promotion of electronics. A similar move involves negotiations that were taking place at the end of last year (i.e. late November 1984) between CTNE; the Japanese group, Fujitsu; and Spain's national computer manufacturer, Secoinsa, which is owned by the public sector holding, INI.

Both Telefònica and Fujitsu are minority shareholders in Secoinsa. And Sr Solana is seeking to have INI reduce its equity substantially in order to let CTNE and the Japanese group have a controlling joint stake in the company. The negotiations underline the trend established by the AT & T joint venture and the future characterisation of Telefònica as a computing and telecommunications broker.

Ambitious plans to reshape system

Netherlands

LAURA RAUN

WITH HOPES of exploiting the information explosion, the Dutch have ambitious proposals to reshape their serviceable but outdated telecommunications matrix into a modern system, weaving together satellite, computer and fibre optics technologies.

The city of Amsterdam recently unveiled its programme to stimulate telecommunication-information technology, or what the Dutch call "informatica," as part of a national effort to develop a co-ordinated policy.

The Dutch capital, which already has the largest cable-TV network in Europe, will install a fibre-optics network that eventually will tap into a teleport, a groundstation for satellite communications.

A key component in the modernisation proposals is the increasingly-likely deregulation of the Governmental Post-Telephone-Telegraph (PTT) agency, which currently has a monopoly on telecommunications services. A relatively even-tempered debate over restructuring the PTT has been conducted for more than a decade, accelerating a couple of years ago with the release of a special commission report looking into the matter.

But even the so-called Swarttouw Report failed to send many sparks flying, despite its recommendation that the PTT assume a more independent role from the Government, that private competition be allowed for peripheral telecommunications equipment and high technology services while the PTT's monopoly over the communications infrastructure and traditional services would continue.

The Swarttouw Commission, which was named after Fokker chairman Frans Swarttouw, who chaired the group, recommended that the PTT become a limited liabilityq company held entirely by the state. The PTT would maintain its monopoly over telephone, telegraph and data services but would lose exclusive control over the emerging services that combine computer and communications technologies.

Private companies would be allowed to operate in interactive videotex, video conferencing and electronic mail, for example, while the PTT could compete if it chose to do so.

Early this year the Government went even further, recommending that PTT spin off its banking activities into a "postbank," be allowed to invest up to Fl 50 ($16.3m) a year in risk capital and to participate in joint ventures more easily.

Moreover, the center-right Government said the communications structure ought to be integrated with the closely regulated cable-TV network into a futuristic system capable of transmitting visual, sound, numerical and data information.

Argument

In setting out its "informatica' policy, the Lubbers" administration unequivocably advocated growth in this area, arguing that to do nothing would leave the Netherlands increasingly behind the Western World. Given the good infrastructure and related institutions, the Netherlands is well placed to develop the new computer-based media, particularly if the private sector is unleashed, the Government averred.

A new panel, known as the Steenbergen Commission, is currently studying the structure and future of the PTT, with an eye toward the Swarttouw recommendations. Meanwhile, a separate inquiry is to be conducted into the possible integration of the traditional communications services with the cable-TV network.

Three-quarters of Dutch homes are already wired for cable, one of the highest saturations in Europe, while 35 per cent of the telephone exchanges are digital and the rest should be converted from the old electromechanical type by the year 2005.

The Netherlands has two video conferencing studios available for a satellite link-up involving France, West Germany, Italy and the UK, plus a burgeoning radio-telephone system and an interactive videotext system known as Viditel.

The cable-TV network, which is operated both by private companies and municipalities, does not yet offer subscription-TV. Following repeated delays, this will begin next April, expanding the current fare of neighbouring countries' Government-controlled channels, the domestic headline service and a couple of entertainment programmes from Britain.

Television-programming companies wanting to provide subscription-TV must get permission from the Culture Ministry and then find a willing cable operator. The flurry of applications suggests stiff competition in the coming months as programmers and cable operators hustle to position themselves.

The drive towards communications deregulation, which began in 1969 with the ending of the PTT's monopoly over radio and TV broadcasting, has drawn surprisingly little fire from the PTT.

The agency relies entirely on the Government for funding but is able to plan multi-year investments because of non-statutory agreements. The Swarttouw Commission avoided some potential criticism by choosing a high PTT official as its secretariat while its findings generally have been accepted by the new PTT director-general, Cor Wit.

Wit, however, does fear that if the PTT losses its sole control over peripheral equipment, the quality will deteriorate with the entrance of Mickey Mouse phones, for example.

Actually, telephones not supplied by the PTT are already available but the PTT looks the other way since it has a monopoly only over the telephone connections and not the apparatus.

In contrast to some PTT's in Europe which exclude foreign companies as suppliers, the Netherlands relies on two concerns abroad in addition to Philips as its main suppliers. Siemens of West Germany and Ericsson of Sweden rank alongside Philips, the Eindhoven-based electronics giant.

Two years ago Philips established a joint venture with American Telephone and Telegraph (ATT) in the area of digital telephone-exchange switching systems and had to compete head-on with Ericsson, which had already installed a number ofswitching systems in the Netherlands.

Major order

The Dutch PTT this year awarded Philips-ATT a contract for five of their 5ESS-PRX systems, which was th esecond major order received following a contract from Colombia.

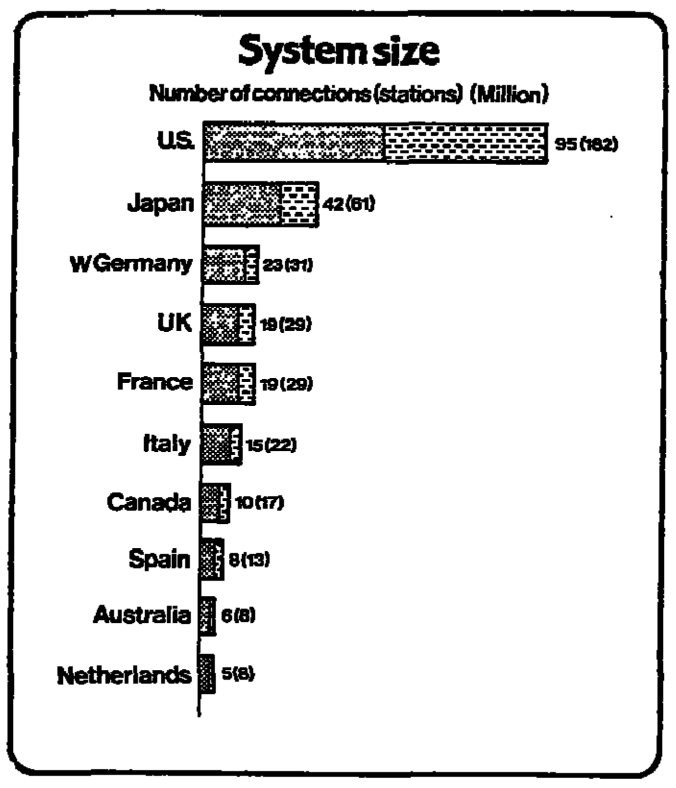
The American-Dutch venture is competing fiercely with both Ericsson and Siemens for the lucrative digital switching-system market. Included among potential customers are British Telecom and Italy's State-owned telephone company. Philips-ATT has joined forces with France's CIT-Alcatel to make an unsolicited bid to supply Venezuela with the advanced telephone exchange systems.

In parliament recently, the opposition Labour Party successfully sponsored a motion to postpone all debate on possible *privatisation of the PTT until* after resolution of a highly controversial proposal to transfer thousands of PTT workers to Groningen.

With 105,000 employees, the PTT is the largest employer in the Netherlands and must bargain with the civil servants union. Jaap Van der Doef, the Labour Party member who sponsored the motion, says the Socialists believe the PTT should be given more independence from the Government, including the ability to raise capital on the private market and more liberal conditions for engaging in joint ventures.

But the Labourites oppose the splitting-off of the PTT's banking functions and the deregulation of the new media area.

The Liberals, avid supporters of the private sector, favour the abolishment of the PTT's monopoly over the enhanced telecommunications services and the opening up of market competition. The Christian Democrats, the senior partners along with the Liberals in the governing coalition, generally agree with the liberals.



● The U.S. has by far the world's largest telephone network, which has roughly twice as many telephones as the second largest country, Japan. The networks of the European countries are roughly the same size, with Germany in the lead.

The chart above shows the number of exchange connections, party lines and telephone in use in the world's 10 largest networks. These figures exclude the USSR, which would rank around 6th position. British Telecom operates the 4th largest telephone network in the world.

Telephone tariffs are among Europe's lowest

Televerket's monopoly remains impregnable

Sweden

DAVID BROWN

DEREGULATION is a relative word. In Sweden, for example, it is applied to proposals to break the Televerket's (PTT) monopoly on telephone handsets, rather than thoughts of broad-ranging competition in providing services.

Televerket is expected to seek Government approval for deregulation of handsets this month, despite strong opposition from the trades union.

In fact, this monopoly only exists on paper, as a growing number of handsets are already being purchased on the open market, sometimes at a quarter of the price of "official" telephones.

In the sale of most other equipment, including PABX's and high speed modems, the Televerket retains its monopoly, but there are significant exceptions.

In the late 1980's, under the *previous Non-Socialist Government*, there were moves to liberalise some areas of the market, and create opportunities for limited competition in the supply of low speed modems, telex videotex terminals and mobile telephones for example.

Reluctance

The Social Democratic administration has been reluctant to pursue this process further, however, and Televerket's monopoly over its network remains virtually impregnable.

An attempt by European Business Systems (a private consortium of venture capitalists), to secure a Government go-ahead to offer competing services mainly to the business sector through sattelite transmissions seems unlikely to gain approval.

Nonetheless, criticism of the Televerket monopoly remains restrained.

Sweden has the highest telephone penetration in the world, among Europe's lowest tariffs, and has been on the leading edge in the development of new equipment and services.

The L M Ericsson Group was one of the first to market an all-digital public switching system — the AXE — which has been sold to nearly 60 countries with a total of nearly 10m subscriber lines installed or on order.

Ericsson had annual sales of SKr 25bn ($3.1bn) in 1983 and 70,800 employees, making it one of Sweden's top 10 industrial corporations. In the space of the past five years, it has increased its share of the world telephone exchange market by 3 per cent to 13 per cent today, helped by the introduction of the AXE system.

Much of Sweden's research and development of telecom equipment, including that of the Axe system, is centred in Ellemtel Utvecklings AB, which is Televerket. Equipment ET cm c jointly owned by Ericsson and Televerket. Equipment developed at the subsidiary is manufactured by the PTT's industrial services division, *Teli, for use at home*. Ericsson produces the same equipment for sale abroad. Only a small proportion of Televerket's needs are met by foreign suppliers.

In the mobile telephone area, where the Nordic Mobile Telephone Network (NMTN) has topped the 100,000 subscriber mark and is the largest and fastest-growing such system in the world, terminals are marketed by some 40 private companies, led by L. M. Ericsson and Mobira of Finland.

Abroad, Ericsson is concentrating on selling infrastructure equipment, and has won key orders for complete cellular systems in Chicago (home town of its arch-rival, Motorola), and in Buffalo and Detroit in the U.S .as well as Toronto in Canada.

The NMTN is an example of the broad-ranging co-operation in the Nordic region in the planning for telecommunications services, formalised in a 1980 agreement signed by all four PTT's. The development of a joint telecome satellite was the subject of extensive wrangling, but agreement has been reached between Sweden, Finland and Norway to proceed on the SKr 1.5bn Tele-X project.

Another recent Televerket innovation is the Mobitex system, which combines a mobile trunked voice and data channel, mainly for closed systems.

Potential applications would let a salesman, for example, access his office computer via the public telecom network to check inventories en route to a customer, a newsman to receive telex messages, and a visiting doctor to check a patient's medical history.

Pilot projects are already under way, with full-scale introduction expected in about two years. Televerket expects some 40,000-50,000 subscribers within a decade.

New services

The Televerket has introduced a number of new services recently. These include Datatex, a datas communication network with some 9,000 subscribers, and Telepak, an international packet switching service.

The public data network has been used, for example, by the *Scandinavian Multi-access Reservations for Travel Agent system*. It allows an agent to use one terminal *log* into a number of reservations and information systems. This means a voyage involving, for example the SAS airline and the SJ state railway can be booked on one screen.

Banks have become important users of the Datex system, while Swedish companies have become important players in the market for specialised banking software and terminals.

In late 1982, it launched a Teletex network and terminal system (already available in Germany, Austria and Canada) which provides access to the internationaltelex system but allows a 30-fold increase in transmission speed.

A number of large private companies have been aggressively positioning themselves to move into the potentially large cable-TV market, now operating only on a trial basis mainly in Lund, Gothenburg and Stockholm with some 40,000 lines. It is thought that Televerket will control roughly two-thirds of an expected 1m lines by 1990.

Key decisions still awaited

Belgium

PAUL CHEESERIGHT

GROWING financial problems at Regie Des Telephones et Telegraph (RTT), the Belgian state telecommunications monopoly, allied to the onset of a new phase of major development expenditure, have created cross currents of argument which will have a profound effect on the Belgian communications system.

At the end of next year, contracts which have linked RTT to Bell Telephone, an ITT associate, and GTE-ATEA, part of General Telephone and Electronics of the U.S., for the provision of exchanges, comes to an end.

The lines are now being drawn for the struggle which will provide new contracts worth up to BFr 100bn ($1.78bn) over ten years for the new generation of digitalised exchanges.

The questions are how will the contracts be apportioned and how will they be paid for. But this comes at a time when RTT is finding its burden of debt increasingly difficult to handle and when serious doubts are being raised about whether it can continue in its traditional way or whether its monopoly powers should be further eroded.

Accounts

RTT in October presented its annual accounts for 1983. These showed its loss had been reduced marginally from BFr 1.72bn to BFr 1.57bn for the 12 months on a 9.1 per cent increase in turnover to BFr 51.6bn. Investment cost nearly BFr 21bn, but financial charges increase dby over 17 per cent.

In total RTT has BFr 180bn of debt outstanding and nearly 30 per cent of its receipts are necessary to meet charges on this.

And the burden has recently been nicreased with RTT going into the market for BFr 18bn. Also just at the time when a considerable portion of debt will need either to be re-financed at higher rates of interest or paid off. the company will be pushing ahead with its new system of digitalised exchanges.

This creates a number of problems. It would be possible to ease the burden of new investment by a system of leasing new equipment. This is an idea which Mr Herman de Croo, Minister for Communications, is considering. He represents part of the wing in the ruling coalition government *which would like to chip away* at the power of state monopolies.

But Mme Paula D'Hondt, State Secretary at the ministry, is opposed to such a course and there is opposition from the trade unions. There is the fear that unless RTT continues in the way it has worked since its foundation in 1930, directly owning the equipment and providing the services, then the first steps towards privatisation will have been taken.

Leaving aside the question of union opposition, the fact is that there is no unity of approach in the ministry handling the future development of RTT, and this division is likely to be repeated in the coalition itself. In the coalition, however, other forces will come into play.

On the political sense, ideological argument about the role of state monopolies is less important than the rivalry between the disputatious Flemish of the north and Walloons of the south of Belgium. In telecommunications this dispute is centred on the way equipment contracts are shared between the two regions.

Earlier this year, the Walloon Social Christians, a fixture in recent coalition governments, produced a report showing that the majority of telecommunications equipment contracts were being placed in Flanders and that the balance needed to be redresed towards Wallonia.

One of those involved in hte report was Mr Philippe Maystadt, Minister of both Science and the Budget, who plys a role in the development of telecommunications policy in both capacities.

Against this background, internal scrutiny and debate about the new exchange contracts will take place. For generations, RTT has relied on Bell Telephone and GTE-ATEA, in portions of three to one, to meet demand for new exchanges. As part of his policy of liberalisation, Mr de Croo would like what looks to be a cosy relationship to be broken. So more companies are being invited to put in proposals.

Links

They include Siemens of West Germany and Philips-Mble of the Netherlands, both of which have in any case a substantial presence in Belgium. But there is also Ericsson of Sweden and CIT-Alcatel of France, both of which have forged links with Belgian Groups, the former with Acec, the leading electrical group in Wallonia, and the latter with Societe Generale de Belgique, the leading national finance and industrial holding company.

The case for widening the network of supplies depends on the speed of expansion of the network. If the work is done gradually, then there is a case for keeping the existing pattern. But if there is to be a rush towards digitalisation then new suppliers can more readily be brought in.

At this point the de Croo's-D'Hondt differences surface again. The former is said to be anxious for speed, the latter for a more carefully phased approach.

Indeed, theconcern of Mr de Croo to enlarge the unmber of RTT subscribers is said the one reason why he has leaned on the company not raise its charges. This in turn is one reason, it is argued, for RTT's financialp roblems.

Gut the question of the contracts will not be settled on economic or financial grounds. In the end it will be political

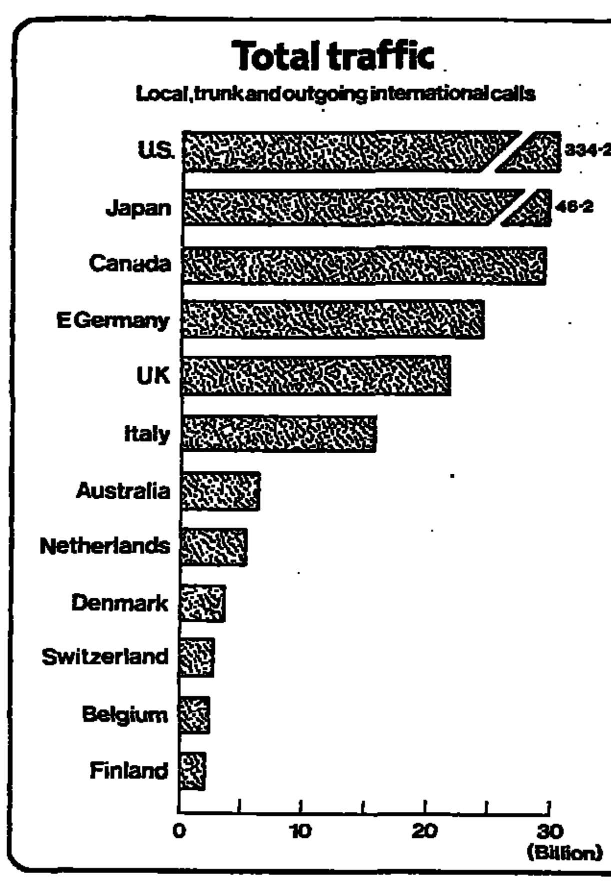
Mell Telephone accepted this when it sought and finally failed to forge a relationship with ACEC in order to span the communal divide. Cutting the cake is likely to be one of the major problems facing the coalition government in its last few months of office. RTT will simply have to pay the price for keeping the communal balance.

It is already accepted that RTT cannot be solely responsible for providing all the equipment and services for the increasing range of demands being placed upon it. And certainly, as it has shown, with its recent contract to provide a staging post for the traffic generated by microwave communications of the U.S., it is ready enough to profit from the liberalisation programmes of other countries.

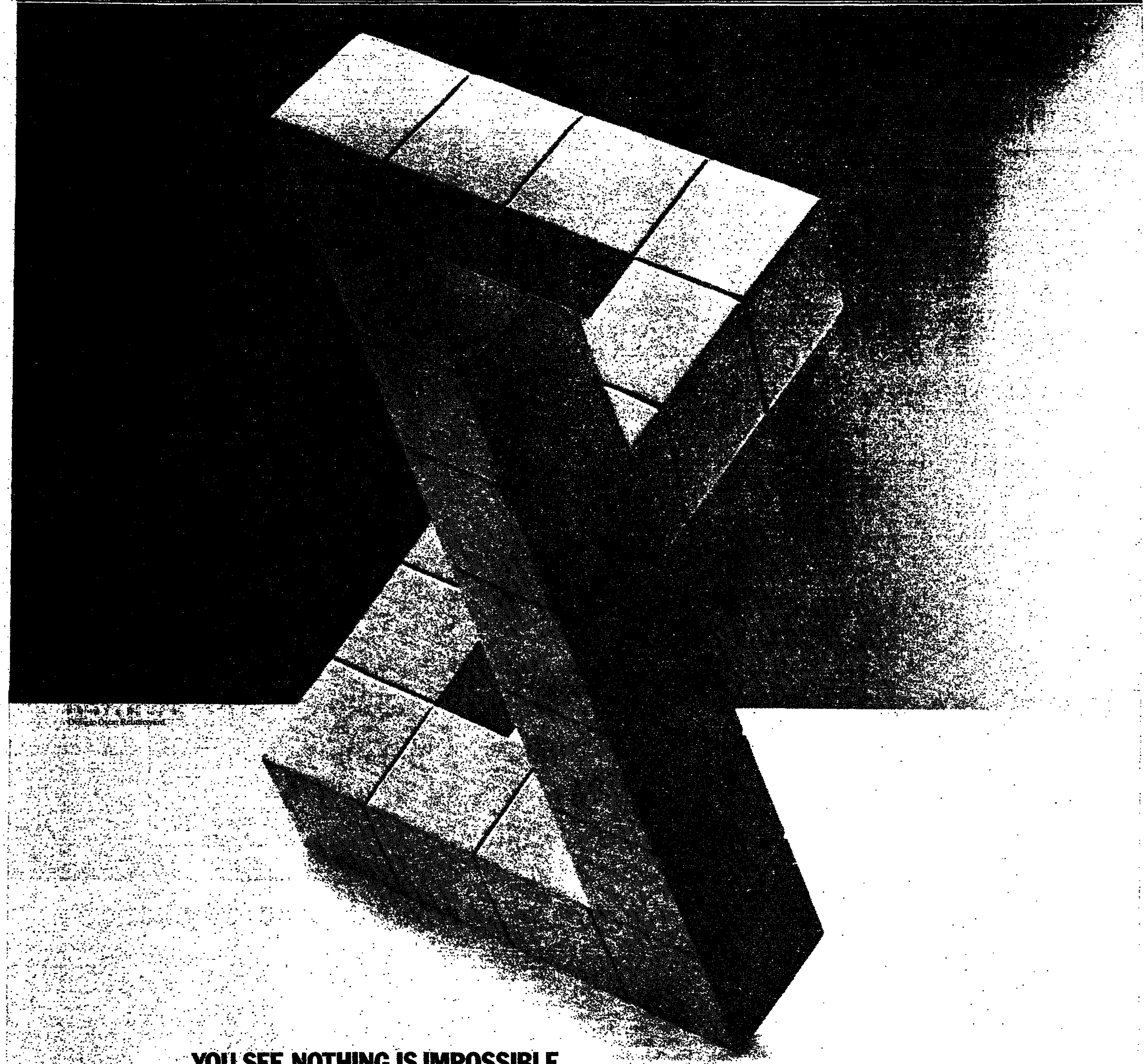
It will continue to provide the basic telecommunications facilties in Belgium. But Mr de Croo points out that his approach is not rigid. "Several categories of terminals or ter. now on liberalised," he said in response to criticism from local American businessmen about the shortcomings of the RTT services.

"This is the case for the PABX of moret han 10 interior lines. More than 25 per cent of the telephonic apparatus in Belgium is supplied by private industry. A lot of accessories, such as automatic answering machines, auatomatic call deviators and alarm transmitters are exclusively supplied by the private sector."

"I have decided to accentuate this liberalisation, so that the telecopiers, the terminal teletext, the second telephonic apparatus — and more particularly the wireless telephonic apparatus — will be supplied in competition with private suppliers. This liberalisation policy will be applied for all the new terminals," he said.



PHILIPS ADDS NEW DIMENSIONS TO INFORMATION MANAGEMENT



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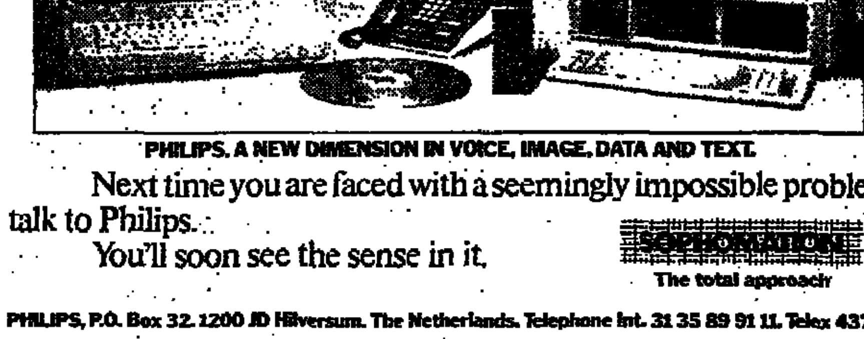

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Foreign companies will have an important role to play in the fast-changing Japanese telecommunications market.

Signs of vigorous expansion ahead

Japanese Government policies

ROY GARNER IN TOKYO

TELECOMMUNICATIONS ranks alongside biotechnology as one of the most promising technology-fired growth areas in the Japanese business world.

Market take-off is expected to occur with the forthcoming privatisation of the government telecomms monopoly Nippon Telephone and Telegraph (NTT), a growing liberalisation of advanced telecomms services and progress in the "wiring" of the nation as part of the INS (Information Network System).

The first step in the process is the planned reorganisation of NTT which is scheduled to begin on April 1, 1985. Initially this will not entail a divestiture along AT & T lines as in the U.S. but, if Diet (Parliament) approval is given, the company will be able to go up to 49 per cent public.

Momentum is already coming, both from the vigorous activity of outside groups preparing to offer alternative services, and from a wider consciousness in the nation as a whole that Japan has to increase the rate of its development of telecomms services if it is to keep abreast of internal demand for broader, faster and more efficient services and, in addition, match the standard and quality of services becoming available in Europe and the U.S.

It is increasingly assumed that such progress would be unlikely to materialise within the present NTT-dominated environment.

Time-scale

It is important to note, however, that although April 1985 is the date when, technically speaking, services can be started by private firms, there is likely to be a delay of as much as two years before such services actually materialise.

A case in point is the digital information link between Tokyo and Osaka proposed by Daini-Denden, the first established NTT-competitor organisation. Owing to cost factors, the company has had to give up its preferred plan to use a satellite communication system, and the microwave circuit it plans to use as an alternative is to be constructed by NTT (from which it must obtain permission for its use), and has a completion date of 1987 at the earliest.

Foreign firms will have an important role to play in the Japanese market, and an early sign of the preparedness of the government to recognise this fact came in April last year when AT & T landed a U.S.$49m contract to supply mini-computers to NTT.

For AT & T the contract represented both the acquisition of a major Japanese customer and an early success as a hardware supplier. NTT contracted to buy 60 of the 3B20S super mini-computers, one of AT & T's most sophisticated products, for use as the core of a new nation-wide system, designed to *co-ordinate the flow of telephone* traffic, which will go into operation during 1986.

The U.S. had frequently mentioned super mini-computers in its calls to NTT to purchase more foreign telecomms equipment, and the AT & T contract was seen as a significant move by the Japanese towards easing trade tensions between the two countries. The deal was the largest single contract awarded to AT & T since NTT signed a cross-licensing agreement with the U.S. corporation in October 1982.

Scepticism

NTT's plans for a new telecomms era has aroused much favourable interest. There is, however, some scepticism over its much-vaunted plans to invest Y20 trillion in a new digital network linking the corners of the country by the end of the century. Critics argue that this effort is little more than window dressing for what is in fact an attempt by NTT to ensure it has the trunk lines in place in time to compete with private cable TV and data transmission companies, towards the end of the century.

This doubt over how much the average citizen will benefit from the advances planned in telecommunications has been componuded by recent government studies which showed that only a tiny percentage of the Japanese population has any idea what the various "new media" proposed actually are.

NTT's experiments with videotex in its Captain system have had *similarly discouraging* results so far, with the majority of participants in home-use trials reporting that the main users of the equipment have been the children playing video games.

The videotex scene has been enlivened recently, however, with the launch of Video Japan Network, a new venture backed by eight Japanese companies which aims to start a rival videotex service in the Tokyo region. Video Japan is based on the U.S.-developed NAPLPS (North American Presentation Level Protocol Syntax) system, and initially will handle entertainment and shopping services.

A new government initiative was introduced in October last year. Under the plan, "new media" techniques are to be introduced into eight regional centres across Japan in an effort both to promote their dissemination in areas outside the Tokyo-Osaka population centres, and to provide an opportunity to assess the influence of such technologies on the business practices and family life of regional communities.

The International Trade and "New Media Community Project" will be much larger in scale than the similar experiments carried out by NTT in Tokyo's Mitaka area.

Interactive Cable TV (CATV) videotex and home banking will constitute the core technologies of the tests, and these will be implemented on an as yet unannounced scale within eight "new media network model areas" in locations which include Morioka in northern Japan, Yokohama, Kumamoto and the Oita-Beppu-Kunisaki "technopolis" in Japan's southern island of Kyushu. The new media equipment will be installed in companies, public organisations and households and will be monitored closely by agencies of the Miti.

The videotex experiments are likely to be based on the NTT Captain system, developed as part of the INS project, which aims to provide videotex service throughout Japan by 1987. It became commercially available in the Tokyo and Osaka regions from November 30 last year.

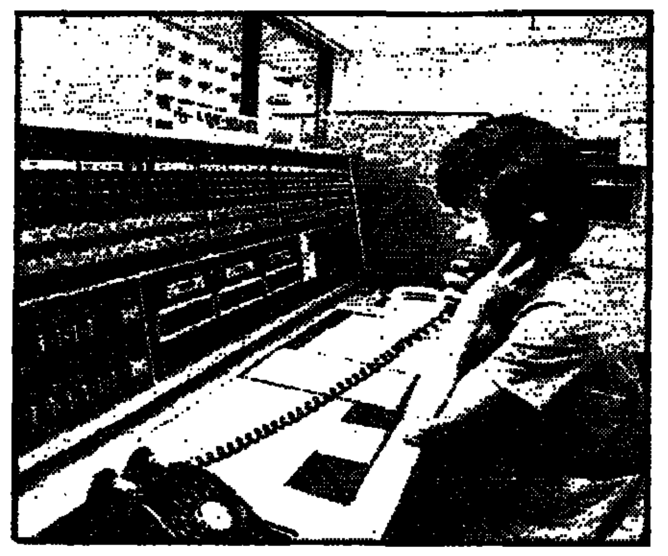
A key aim of the Miti venture is the matching of technologies with local conditions. In the Oita "technopolis" region, which lies in Japan's "silicon island," the chief users of the new media will be high-tech companies, among which are likely to be some of the booming semiconductor firms. In contrast, in the rural Hassei area of Ehime prefecture, a major mandarin orange producing centre, agricultural co-operatives will be the main users and will be linked directly with relevant facilities such as local weather observatories and shipping and transportation departments.

Experiments

Miti has not yet indicated how closely the "new media community project" will resemble the previous INS experiments of NTT, but the government is known to be highly conscious of the need to promote a high-technology oriented lifestyle among its citizens, as part of its wider industrial strategy, and observers suggest this latest project is an element of the government's attempt to boost a process which is not so far *occurring naturally, nor at the* required speed.

Another recent experiment with new media has been carried out by NEC, which introduced "telecommuting" for some of its employees who currently handle data processing work from their homes.

A "satellite office" has been established close to a large residential area, and groups of employees from the vicinity work together in a workshop setting, enjoying the communal atmosphere so widely preferred by Japanese workers.



The control room at Mitsui Communications Division in Tokyo.

International comparisons in telecommunications

	U.S.† Dec '82	Japan Mar '83	W. Ger Dec '82	BT Mar '84	France Dec '82	Sweden Dec '82	Hong Kong* Dec '83	Australia Dec '82
Telephones per employee	188.8	185.5	154.9	121.7	180.9	173.4	162.5	93.5
Exchange lines per employee	98.0	128.6	111.5	83.2	119.0	124.2	123.8	62.2
Telephones per 100 population	76.0	52.0	50.9	51.7	54.1	85.6	38.2	54.0
Residential exchange lines per 100 households‡	94.8	78.3	71.7	76.4	78.1	96.0	83.3	85.0
Revenue per employee (£'000)	41.3	33.8	32.8	28.5	31.5	21.8	19.2	21.2
Calls per exchange line	3,521	1,084	1,064	1,149	n/a	n/a	n/a	1,170
Capital investment per line (£)	141.4	113.7	136.2	72.5	117.3	70.9	90.7	269.4
Proportion of exchange lines Electromechanical (%)	31	79	99	63	11	93	60	n/a
Electronic (%)	62	18	1	36	52	7	35	n/a
Digital (%)	7	3	1	1	37	7	5	n/a

Notes:
† AT&T and other common carriers together with the local telephone companies, including the Bell Operating Companies.
* Hong Kong Telephone Company only.
‡ The figures for West Germany, France and Australia are SGL estimates.
Source: Scott, Goff, Layton

New challenges confront industry

Japanese manufacturers

ROY GARNER

THE forthcoming reorganisation of the government-run Nippon Telephone and Telegraph (NTT) promises to set in motion a drastic reshaping of the Japanese telecommunications market.

Activity is already brisk among both foreign and Japanese telecommunications firms as they prepare to make the most of the new opportunities the liberalisation moves will bring.

Two recent reports issued by the Electronic Industries Association of Japan (JEIA) and the Communications Industries Association of Japan (CIAJ) predicted that demand for telecommunications equipment and computers in Japan would maintain double digit growth over the next five years, despite the present sluggish economic climate, with sales of telecommunications devices reaching Y1,430bn in 1987, an 11.4 per cent rise over 1982 levels.

The associations said that growth would be centred on the sale of sophisticated products aimed at the office automation and information network system (INS) markets. Private sector demand is expected to increase by around 2 or 3 per cent while public sector demand drops by as much as 5 to 6 per cent.

Interest is currently focused on the emergence of new organisations designed to compete with NTT, and especially on new allegiences being forged between firms already in the field. Among foreign companies, AT & T of the U.S. has already gained a particularly high profile.

The first established competitor organisation, Daini-Denden (literally 2nd NTT), is an amalgam of 25 firms, most of which are venture business organisations.

The company which has led this movement, Kyocera, has already acquired near-legendary status, and an extraordinary stock market rating, for its entrepreneurial efforts both in this venture and in its pioneering work on ceramics technology. Other respected venture-oriented companies in the group include Sony, Secom and Ushio.

The commercial possibilities within the new telecomms field appear set to produce some uncharacteristic co-operation between different forms of business organisation. Noburo *Goto, president of the Japan* Chamber of Commerce (JCCI), who is acting as a special adviser to Daini-Denden, recently said that he was not opposed to his organisation (which deals largely with small-scale businesses), and Keidanren (an organisation of big business companies) acting together in a single enterprise which would share the benefits of use of a costly communications satellite.

Alliances

There also promises to be an upsurge in business tie-ups between small venture business firms and some of the industry giants. In fact Shingo Moriyama, vice-president of Kyocera, and president of Daini-Denden, recently described this as "essential for the new private telecommunications service."

In addition to the Daini-Denden group, competition with NTT has also been proposed by the Japan Highway Public Corportion which, together with the Ministry of Construction, and supported by dozens of companies in the automotive, electronics nd general trading fields, plans to lay an optical-fiber network on the Tokyo-Osaka route.

A similar plan is proposed by the Japan National Railways for an optional pathway along the tracks of the Shinkansen "bullet train." This enterprise *goes under the name of Nippon* Telecom Co. and is supported on an initial equity basis by more than ten dozen companies.

Other new telecommunications groups include a communications satellite operating and transponder-leasing group organised by Mitsui and C. Itoh two leading trading firms, which will operate together with the communications subsidiary of spacecraft manufacturer, Hughes Aircraft.

The keyword in attempts by Japanese companies to crack the NTT stronghold is certain to be co-operation. This will be necessary not just because of the enormous capital investment involved (some estimates cost initial outlays at Y20bn for satellite facilities and Y30bn for fibre-optic pathways) but also because of the diverse range of technological expertise which will be required. (In this latter respect, interest is also strong in the participation of foreign companies. Moriyama of Daini-Denden has already upset Japan's telecommunications satellite makers by suggesting U.S.-made satellites will be a more efficient choice than their Japanese counterparts.)

Foreign involvement in Japan's telecommunications networks has also been conspicuous in relation to the provision of VAN (value added network) services. A measure of liberalisation has already been introduced in this field, and the flurry of activity which the "new" area of business has prompted offers some indication of the readiness of Japanese companies to move into fresh areas of telecommunications business as they become accessible.

Japan's first private VAN services began in November 1983, and there are currently at least 17 VANs in operation nationwide, run by 13 information processing service companies.

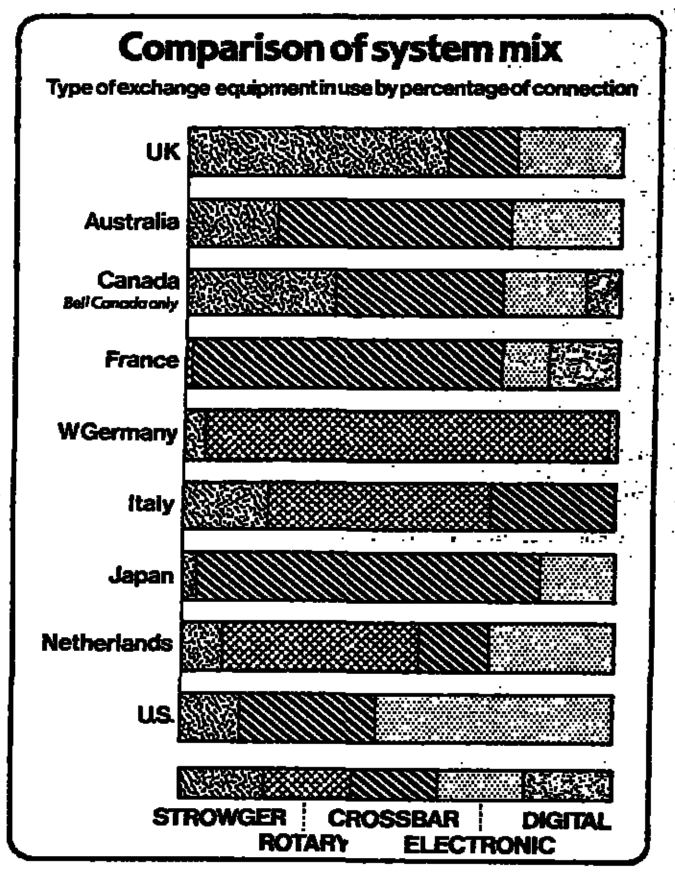
These local specialist companies, the best-known among which is Intec, have recently launched intensive sales campaigns aimed at banks, supermarkets and major retailers. Strong interest in the provision of such services has also been shown by major business groups such as Mitsubishi, Mitsui, and Dai-Ichi Kangyo Bank, which wish to take advantage of the extensive communications networks they already possess for internal use.

Interest

The two main foreign companies showing an interest in the market are AT&T of the U.S., and IBM of Japan. AT&T Inc has announced it is now negotiating with 15 Japanese firms, including Mitsui and the Industrial Bank of Japan, for a VAN business tie-up, which will operate under the name Japan ENS Kikaku (enhanced network service). The new Y1bn company will launch the AT&T "Net 1000 system" large-scale digital information service network next April. AT&T has also said it is keen to export its 256 KDRam chips and small-size computers as part of its joint activities.

IBM Japan Ltd is aiming to advance into VAN services through a firm it has set up together with Mitsubishi and Cosmo 80, called AST. The new company will make use of IBM's "IN" informtaion network software. IBM Japan is also said to be considering setting up independent VAN services.

It is too soon, however, to be confident that foreign concerns will get an equal crack at the Japanese telecommunications market. In February last year a government advisory panel made up of representatives from banking, communications, transportation and trading companies advocated closer links between government and industry in the development of telecommunications networks of the future. The panel also urged Japanese industry leaders to develop independent VAN systems as a form of protection against U.S. advances in the field.



While Strowger and Rotary systems form the backbone of the international exchange network, Japan's network is based largely on the Crossbar system.

Moves to control pace of change

MANY OF the forces that have brought greater competition to the U.S. telecommunications market are also at work in Canada. One big difference, however, is that the Canadians—with typical caution—are trying harder to control the pace of change.

A clear sign of the direction the Canadian market is moving in will come this summer when the Canadian Radio-Television and Telecommunications Commission (CRTC) is expected to rule on a bid by CNOP Telecommunications to break a monopoly in Ontario, Quebec and British Columbia on public, long-distance service.

Canadian developments

BERNARD SIMON in Toronto

CNCP is a joint venture between the country's two big diversified transport companies, Canadian National and Canadian Pacific. It already provides a private-line, dedicated service in Ontario, Quebec and British Columbia, as well as data transmission facilities throughout the country.

The CNCP decision is likely to have a ripple effect. The CRTC said last January that the marathon case, which involved over 50 witnesses, will give it an opportunity "to develop a more general regulatory policy regarding inter-exchange competition. In so doing, it will be the commission's objective to reduce future uncertainty regarding the federal regulatory response to competitive initiatives."

The Canadian telecommunications systems is at present an almost incomprehensible maze of national, provincial and even local companies, each group regulated by a different authority, but with enough exceptions and exclusions to throw the most hardened analyst off balance.

Bell Canada, a subsidiary of Montreal-based Bell Canada Enterprises, has a monopoly on local service in most of Ontario and Quebec, and owns a substantial stake in three utilities in eastern Canada. Other companies controlled by BCE include Northern Telecom, the world's biggest supplier of digital telecommunications equipment and Bell Northern Research, a leading research group.

British Columbia Telephone Company, a subsidiary of the U.S. group GTF, has a monopoly on the West Coast and also falls within the jurisdiction of the CRTC in Ottawa.

CNCP chose Ontario, Quebec and British Columbia as its first targets in the public, long-distance markets because, like CNCP, the utilities in those three provinces are regulated by the federal government in Ottawa.

Utilities in other provinces fall under the jurisdiction of provincial authorities. The Alberta, Manitoba and Saskatchewan governments own their telephone companies.

There are also a number of local utilities. Edmonton's telephone company is currently locked in a bitter dispute with the Alberta provincial utility on allocation of long-distance revenues generated in the city. Ontario-Northland Telecommunications provides services in parts of northern Ontario not served by Bell.

Public, long-distance service — the field CNCP is trying to penetrate — is presently the preserve of Telecom Canada, whose members include the nine major provincial carriers (including Bell Canada) and Telesat Canada.

Telesat Canada is the national satellite corporation owned jointly by the federal government and the telecommunications carriers.

Despite this confusing profusion of utilities, Canada's telecommunications network in many respects matches that in the U.S. for efficiency and sophistication. The two systems are closely integrated. A far higher proportion of the Canadian network has been converted to digital equipment, thanks partly to Bell Canada's close links to Northern Telecom, from which it buys almost two-thirds of its equipment.

The similarities between the U.S. and Canadian systems will become even clearer if the CRTC unconditionally approves CNCP's long-distance application. CNCP has promised to cut Bell and BC Tel's long-distance rates by 10-20 per cent, bringing an element of price competition to the regulated part of the Canadian market.

The prospect of price-cutting has reopened the debate in Canada on the principle of "universal service," one of the most sensitive facets of the North American telephone revolution.

As in the U.S., Canadian subscribers have up to now enjoyed the luxury of a low, fixed monthly fee for all local calls. The degree of cross subsidisation between local and long-distance service is even greater in Canada. BC Tel, for example, spends 36 cents to generate C$1 in trunk revenues, but C$2.13 *to produce C$1 from local service.*

Revenue boost

CNCP's absence from the local market is one reason why its application for long-distance rights is strongly opposed by Bell and BC Tel.

To boost local revenues and give themselves flexibility to fight off the long-distance threat, the established companies are eager to introduce a system of graduated charges for local calls, known as "local measured service."

Bell's evidence to the CNCP hearings observed that "on the local service side, the existing flat rate structures and levels have provided little incentive for Canadians to exercise restraint in their use of local facilities."

Bell insists that it has taken no firm decisions on DMS. But it has launched an ambitious public relations campaign to persuade sceptical users that the days of free local calls may be nearing an end. It has also filed *an application with the* CRTC for a general tariff increase.

The CNCP case may be a watershed, but it follows several moves in the last five years to open the Canadian market to competing services and products. By allowing telephone subscribers to buy their own equipment in 1980, the CRTC encouraged competition between equipment suppliers and spawned a lively inter-connect market.

Curbs on the ownership of *earth satellite stations* will be lifted in spring 1986. The cellular mobile radio market has been opened to competition, and cable companies are pressing for permission to enter fields now reserved for the telecommunications utilities, such as high-speed data transmissions.

The pace of change is sufficiently strong to attract many equipment suppliers to the Canadian market. Although AT&T has long been a supplier to the phone companies, it set up an office in Toronto in late 1983 to expand its sales to subscribers, especially Canadian susbidiaries of U.S. companies.

AT & T hopes to capture 8 to 10 per cent of sales to business users by the end of the decade.

Similarly, the Swedish group LM Ericsson has secured a pole position in the cellular radio-telephone market by licensing a supplier to Cantel Cellular Radio Group of Montreal, which plans to provide a portable telephone service in 23 Canadian cities, starting this summer in Toronto and Montreal.

Canadian companies are also spreading their wings. Moves by Northern Telecom (see profile) and Mitel into areas such as data communication and semi-conductors are well-known.

Gandalf Technologies, the pioneering, Ottawa-based manufacturer of data communications equipment, has signed supply contracts with several U.S. telephone companies for modems, multiplexers and switches. It is designing equipment for British Telecom's wide-band megastream and kilostream services.

The new spirit of free enterprise has raised thorny questions about the structure of the Canadian telecommunications industry. For example, several telephone companies have begun competing with suppliers, especially in data equipment.

The propriety of Bell Canada's close relationship with Northern Telecom, its largest supplier, is frequently questioned. BC Tel has diversified in the past five years into production of switching and transmission equipment. One subsidiary manufacturing business terminals succeeded in capturing three-quarters of the market in its first year of operations.

A long Government inquiry concluded in 1983 that tampering with the Bell Northern Telecom-BNR relationship was not in the public interest. But the CRTC has reopened the issue by initiating a study into the need for telephone companies to set up arm's length entities for their competitive activities in data terminals, enhanced data and electronic mail services and cellular radio-telephones.

Bell Canada, BC Tel and CNCP, among others, were asked in November 1984 to submit comments on the matter. According to the commission its aim is to "develop effective methods to ensure that common carriers neither subsidise their competitive activities from their monopoly revenues nor deny competitors fair and non-discriminatory access to the monopoly common carrier facilities they require in order to compete."

The CRTC will decide in April whether to hold a full-scale public hearing on the issue.

Moves towards wider collaboration

The convergence of computing and communications technologies is spurring more alliances among companies which, until recently operated in quite separate markets. On this page, **Guy de Jonquieres** highlights these developments.

AS THE telecommunications industry strives to adjust to the rapid pace of change which is re-shaping its markets worldwide, companies are increasingly looking to collaboration to strengthen their commercial positions and enable them to expand and diversify into new fields.

Collaboration can take a number of forms, ranging from fairly informal agreements between companies to unit in support of certain technical standards through joint ventures in research, product development and market ing to outright acquisition.

As the accompanying table makes clear, the urge to collaborate is shared even by some of the world's largest companies, such as American Telephone and Telegraph and Philips of the Netherlands, which is Western Europe's biggest electronics and electrical group.

Nor are these alliances confined to companies whose main business has historically been telecommunications. The convergence of computing and communications technologies is spurring link-ups between partners which had until recently operated in quite separate markets. The recent acquisition by IBM, the world's largest computer company, of Rolm, the successful U.S. private branch exchange (PBX) manufacturer, is one example.

The trends have been most evident in the U.S. and Western Europe, and particularly between companies in these two regions. In the U.S., increasingly fierce competition is forcing the telecommunications industry to look abroad to enlarge its markets.

In Europe, where most national markets are still compartmentalised and dominated by state monopolies, companies are looking to the U.S. to provide economies of scale which they cannot achieve at home.

Alliances between European telecommunications companies have been relatively rare, though a modest trend is starting to develop in this direction. European manufacturers face two problems, however.

One is that national restrictions make it difficult for them to sell on each others' markets. The second is that the main strength of most of the leading manufacturers is in public switching, which is an overcrowded market, and there is a high degree of duplication between their product ranges. Hence, little complimentarity exists between their principal businesses.

Another feature worth noting is the virtual absence of significant collaborative arrangements between Japanese companies or with manufacturers in the West. This contrasts with the steady growth of alliances between Japanese, U.S. and Western European companies in large computers.

Part of the explanation for the discrepancy may be that unlike the computer market, where competition is subject to few government restrictions, telecommunications markets in both Japan and Europe are still constricted by national monopoly policies.

There are four principal motives which, separately or in combination, underlie most of the collaborative arrangements reached recently. They are:

1—The need to share mounting development costs. This is a particularly important factor in public switching. It is estimated that the investment needed to develop a new range of digital exchanges today is not much less than $1bn, and that sales of about $14bn are required to justify the cost.

Increasingly, however, the trend among public telecommunications carriers worldwide is to split their switching orders between two or more competing systems. That makes it even harder for manufacturers to recoup development costs just on their home markets.

Examples of such collaboration include the joint venture between AT & T and Philips and the sporadic discussions between several larger European manufacturers on joint projects to develop the next generation of "superswitches."

2—Gaining a presence in new geographic markets. This objective is closely related to the first. European companies including Sweden's L. M. Ericsson and Plessey have sought to build a U.S. market base through joint ventures and acquisitions, while American companies including AT & T and GTE have taken local partners in a bid to sell more in Europe.

Such alliances, however, must contend with the national barriers which close off national telecommunications markets in Europe. Though France has proposed a reciprocal opening of national telecommunications markets in Europe but responses from other countries have so far been cautious.

3—Gaining access to new product and technology. The emergence of new markets such as office automation, which have grown out of the convergence of computing and communications technology, has stimulated link-ups intended to enable manufacturers to straddle a variety of technological disciplines.

Examples of such collaboration include the investments made by AT & T in Olivetti, by IBM in Rolm and by Standard Telephones and Cables of the UK in ICL. In many of these cases, joint product development is an objective.

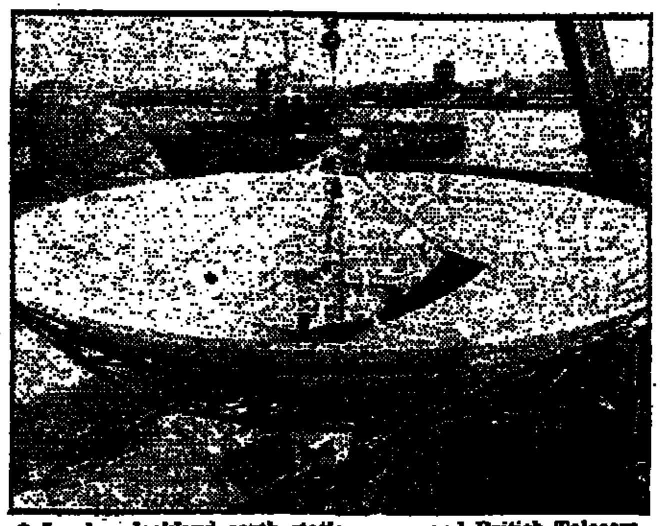
4—Gaining marketing expertise. This is often the hardest part. Though their technologies are merging, the computer and communications industries still differ in terms of type of customer, market approach, selling methods and the ways in which they manage their businesses.

Historically, telecommunications has been a capital equipment business, in which a large proportion of sales has been made to central telecommunications administrations—or in AT & T's case, to itself. The major determinants of the market have been engineering criteria and the replacement cycle.

Almost all telecommunications equipment manufacturers have faced a challenge in *coming to grips with the more* open competitive markets for products such as subscriber apparatus and, more recently, office automation. In most European countries, state monopolies have traditionally dominated even these markets.

Several telecommunications companies have sought to overcome this handicap by buying into computer and office products manufacturers which have direct experience of selling to final customers. AT & T's purchase of 25 per cent of Olivetti—which is also supplying AT & T with product—is a case in point.

However, there are plenty of traps for the unwary, and mastering the art of marketing directly to final customers can be a demanding task. L. M. Ericsson has recently suffered some reverses in its private systems business, as did Northern Telecom after buying two U.S. computer terminal companies in the late 1970s.



London dockland earth station: a second British Telecom dish aerial is lowered into position in the capital city's dockland area which is at the heart of the UK's latest high technology communications scene. The first customer of the earth station was Satellite Television which transmits Sky-channel programmes to seven European countries, via an Intelsat satellite.

How companies are linking up

American Telephone and Telegraph (U.S.): Since AT&T won the right two years ago to compete outside the U.S. regulated telephone business, it has made two major industrial alliances—with **Philips**, the large Dutch electrical and electronics group, and **Olivetti**, Italy's leading office equipment supplier.

The link-up reflect AT & T's need to establish rapidly a presence on international markets, from which it had been absent for more than half a century, and to strengthen its prdouct range, particularly in fast-moving competitive businesses such as office automation.

AT & T and Philips Telecommunications, a joint venture based in the Netherlands, has been set up to market internationally versions of AT & T's No. 5 ESS digital public exchanges and transmission equipment. So far, its only sizeable orders have been for public exchanges in the Netherlands, almost a captive market for Philips.

AT & T has acquired 25 per cent of Olivetti, with an option to raise its stake to 40 per cent eventually. Olivetti is supplying AT & T with personal computers for sale in the U.S. market. AT & T has also commissioned **Convergent Technologies**, a fast-growing Californian company, to develop workstations for it.

AT & T has also agreed on a joint venture with **CTNE**, the Spanish telecommunications group, to build a microchip plant in Spain. Earlier last year AT & T bid unsuccessfully to acquire **Inmos**, the British microchip manufacturer, which was late bought by Thorn EMI, the largest UK consumer electronics company.

British Telecom (UK): Watch this space. BT plans to expand internationally after privatisation and is weighing a number of options for collaboration, joint ventures and acquisition. The U.S. market is its prime target.

Cable and Wireless (UK): Since it was privatised by the British Government in late 1981, Cable and Wireless has announced a string of international acquisitions and alliances in a bid to broaden its business base, which depends heavily on telecommunications franchises in Hong Kong and Bahrain.

In Asia, Cable and Wireless has bought **Hong Kong Telephone** and has entered several telecommunications joint ventures in the People's Republic of China. It has also been granted a franchise to operate Macao's international telecommunications traffic.

In the U.S., the company is involved in plans to instal high-capacity long-distance cable links along railway tracks in several parts of the country and is a partner with American consortium **Tel-Optik** in a project to lay a transatlantic optical fibre cable system. It also owns several small U.S. companies including **TDX**, a call-routing firm, and equipment distributor **Carterfone**.

UK projects

In Britain, Cable and Wireless acquired full ownership of **Mercury Communications** last year, after co-founders Barclays Merchant Bank and British Petroleum withdrew. Mercury, which is building a UK network to compete with British Telecom, operates transatlantic services in partnership with **Western Union of the U.S.**

Cit Alcatel, (France): Cit Alcatel took effective control of the telecommunications business of **Thomson**, the number two in the French industry, about 18 months ago. Since then, it has intensified its quest for international partners to help it diversify and to share the mounting cost of developing new products.

It has had mixed successes to date. It has teamed up with **Philips** in radiotelephones, but the alliance faces an uncertain future after the abandonment of Franco-German plans for a common cellular mobile system. Talks with **GEC** and **Plessey** of Britain on collaboration foundered after French efforts to sell Cit Alcatel's E.10 public exchange to British Telecom were rebuffed.

Since then, Cit Alcatel has agreed on limited technical co-operation in public exchanges with Italy's **Italtel** and is discussing link-ups with West Germany's **Siemens**. It is also collaborating with **Xerox**, the U.S. copier group, on computer software. In the past few years it has bought **Friden**, the U.S. franking machine company, and UK office products company, **Roneo**.

L. M. Ericsson, (Sweden): Ericsson, a world leader in public exchanges, began diversifying into office automation and private data systems about five years ago, chiefly by acquisition. In Sweden, it has bought **Datasaab**, the maker of small computers, and typewriter and *printer supplier* **Facit**.

In the U.S., it has a joint venture with oil company **Atlantic Richfield** which markets Ericsson telecommunications equipment and produces computer software an dcables. It has also agreed with U.S. computer company **Honeywell** on plans to develop office systems based on the two companies' products.

IBM, (U.S.): IBM's expansion in telecommunications accelerated late last year, when it took control of **Rolm**, the U.S. leader in fully digital private branch exchanges (PBXs). It also increased to 60 per cent its stake in ***Satellite Business Systems*** **(SBS)**, an ambitious but loss-making U.S. satellite communications network, whose service IBM now sells through its own marketing force.

IBM operates a sophisticated data network, Information Network Service, in the U.S. It is developing an electronic financial information and trading system with **Merrill Lynch**, the largest American stockbrokers, and plans a home information services venture with **CBS**, the broadcasting company, and **Sears**, the retailing and finance group.

Thorn Ericsson, a joint subsidiary with Thorn EMI, makes telecommunications equipment in Britain. It is supplying network equipment for the Racal-Vodafone cellular radio system and is among the contenders to supply British Telecom with an alternative to Systex X public exchanges.

GTE, (U.S.): The largest vertically integrated telecommunications company in the U.S., GTE has a joint equipment manufacturing subsidiary with **Ferranti** in Britain and a development agreement with **Italtel**. It also has subsidiaries in Canada, Brazil and Italy and is working with **Wang**, the American office systems supplier, to make compatible communications products.

IBM plans

In Europe, IBM has supplied computers and public exchange add-on equipment to British Telecom and is also building much of West Germany's public videotex service. But a proposal to launch a UK data network service jointly with British Telecom was vetoed by the Government last year.

Northern Telecom, (Canada): Second only to AT&T in the U.S. telecommunications equipment market, Northern Telecom is seeking to diversify into office automation. But it is reluctant to tie itself too closely to any computer manufacturers, though it has technical cooperation agreements with companies including **Sperry, Data General** and **DEC**.

Plessey, (UK): Plessey is counting heavily on expansion in the U.S., where it owns the public exchange business of **Stromberg-Carlson** and is linked closely with **Scientific Atlanta**, a maker of satellite earth stations and cable television equipment. It has yet to win any mapor American orders, however.

Standard Telephone and Cables, (UK): The world leader in submarine cables, STC has recently weakened one set of old ties—with **ITT** of the U.S., which has reduced its stake in the company to 24 per cent—and forged a number of new ones.

In line with its strategy of technological "convergence," it has acquired **ICL**, the largest UK-owned computer company, which already markets under its own name a large PBX made by **Mitel** of Canada. STC has also bought **International Aeradio**, a British supplier of specialised communications services, and ITT's electronics activities in the UK.

Guy de Jonquieres

A scramble to boost production

U.S. PBX manufacturers

LOUISE KEHOE AND PAUL TAYLOR

THE U.S. market for large switches handling more than 500 lines is perhaps the most unpredictable, and fastest-growing, part of the market — at least in the short term. Currently, it is expanding at a clip of around 25 per cent per year and expected to peak next year when many Bell operating companies are expected to begin placing large orders.

This sector of the switch market is currently dominated by Northern Telecom, AT&T, Rolm and NEC. But there is a host of other competitors banging on customers' doors for orders and a number of manufacturers are also very keen to sell public exchanges to the new independent regional Bell operating companies.

These include L. M. Ericsson and ITT which is gambling much of its credibility in the U.S. market on selling its System 12, already highly-successful elsewhere, to the Bell operating companies and others. Last year, ITT won its first System 12 sale in the U.S. when United Telephone of Florida ordered 12,000 lines by 1986.

ITT's task

ITT says it is currently negotiating with a number of the newly-independent Bell companies and claims to be "close" to winning its first order.

ITT will have to move fast because all the major players are scrambling to boost production and win orders in this sector. AT&T in particular is making a determined, and apparently successful, effort to win back a major share of the orders for large public switching equipment with its 5ESS switch. After completing a major overhaul including extensive automation of its 5ESS plant in Oklahoma City in late 1983, production has been expanding dramatically.

Having shipped only 27 switches with 180,000 lines before 1984, AT&T passed the two millionth 5ESS line mark in November and had shipped over 145 switches and 65 remote units by the end of last year. This year AT&T expects to ship 325 main switches and 160 remote units with 6m lines.

The "medium" size PBX market is perhaps the slowest-growing part of the industry and its share of the overall market is shrinking from about 40 per cent in 1983 to perhaps 26 per cent last year. However, this market is also extremely competitive as established equipment makers vie for replacement orders with several new entrants. Most analysts suggest a growth rate of under 10 per cent a year for this sector.

Across the broad spectrum of the exchanges European and Japanese manufacturers have increased their share of U.S. sales over the past year, aided by the strong dollar. NEC has been particularly aggressive: for example, it won an important contract from Sonecor Systems, a southern New England telephone subsidiary.

Estimates of the overall growth potential for PBX sales vary widely. Analysts at L. F. Rothschild's communications analysis group in San Francisco predict a 20 per cent industry growth rate to total about $8bn by the end of the decade.

In contrast, other market analysts project growth of only 5 per cent over the same period. Indeed, parts of the market have proved highly volatile during the past year. For example, in October ITT restructured its US telecommunications business citing, among other factors, "an unanticipated market downturn during the past several months of PBX equipment and terminal equipment."

The pessimists suggest that the PBX business has enjoyed a once-only surge during the mid-1970s and early 1980s due to the changeover from analogue to digital systems. They see growth slowing to match population growth over the next several years.

However, other industry experts believe that new technology and new features will raise the price of new systems and create demand for replacement or enhancement of existing systems. By the late 1980s as much as 40 per cent of the PBX business is expected to come from selling add-on extra features for installed systems, they say.

The PBX market is clearly maturing and manufacturers are scrambling to win market share. According to industry experts, competition is at an all-time high. Some manufacturers are even said to be selling below cost in a desperate attempt to establish themselves before an anticipated industry shake-out occurs.

Already several companies, including Rockwell International and Telesciences, have folded their tents in the PBX business while other companies such as CXZ, Ztel, David Systems and Prolink are rushing into the market with new products.

Two trends are expected to boost PBX sales. The first is the anticipated growth of "tenant shared" telecommunications facilities: "A building manager would install a large switch (PBX) in a big office complex and then rent a PBX service to the tenants. Instead of buying their own PBX, the tenants would rent space on the master switch while having the privacy and security of their own system."

Growth rate

While this trend is not expected to dramatically alter the market size it could reduce the growth rate in the smaller (under 200-line size) system sector while adding a corresponding amount to the growth in the market for big PBXs and switches.

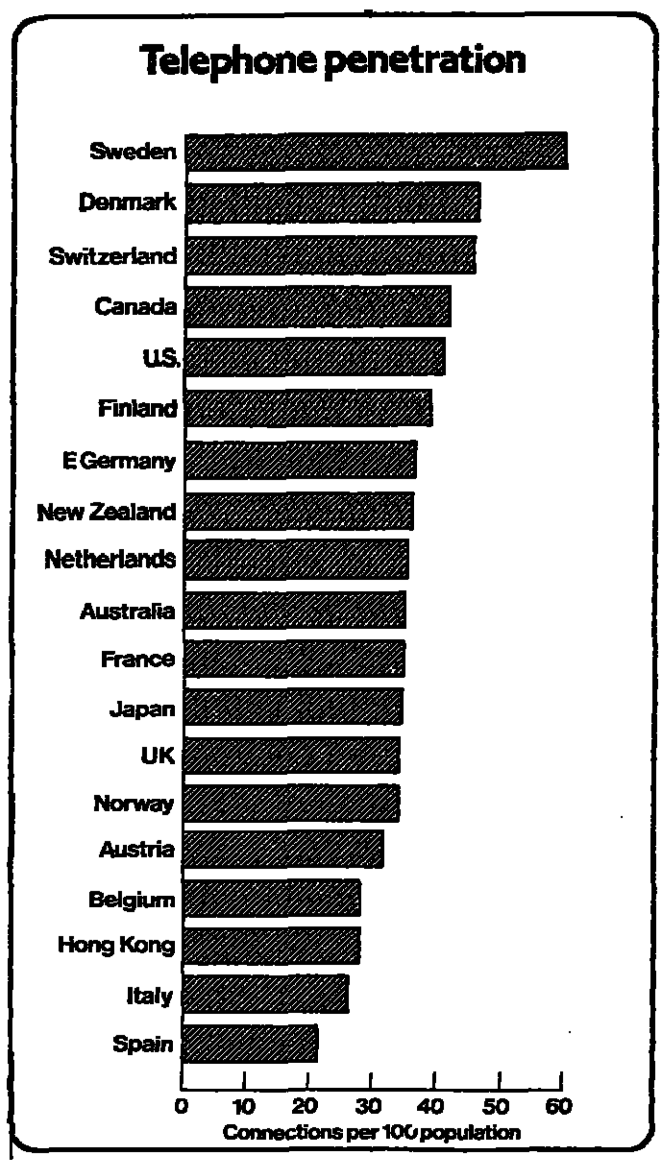
The other major technology trend in PBX equipment is towards combined voice-data systems which may breathe new life into the PBX business as well as creating a new market sector for "universal" workstations, which are essentially personal computers with fancy telephone capabilities built into them.

U.S. sales of these "integrated voice/data terminals" (IVDT) totalled $100m in 1984 but could grow to as much as $400m-$500m by the end of 1986, according to market analysts. Already, however, dozens of companies are competing for a share in this emerging market. PBX manufacturers AT & T, Mitel, Northern Telecom, and Rolm have each introduced their own version of a "personal communications terminal."

Televideo and Wang, from the office automation world, are also involved, and at least half a dozen start-up companies are pitting themselves against the big companies with a variety of products ranging in price from as little as $750 to over $2,500.

Personal computer manufacturers including Apple, Compaq and Hewlett-Packard are also believed to be developing IVDT products, which could come to represent the next generation of desk-top computers.

The IVDT, whether known as a new type of personal computer, or regarded as a sophisticated telephone, seems likely to become a significant addition to the telecommunications equipment market this year.



Effectiveness of Nato's C3 is under threat

Contracts reshuffle needed

Defence communications

BOB RAGGETT

NATO's VITAL command, control and communications (C3) is in a state of disarray. Political problems have thrown off course any overall strategy that might have existed, while the inability of some sectors of the electronics industry to produce and deliver equipment and systems for Nato programmes has seriously reduced the alliance's overall C3 effectiveness.

Some even argue that with the present unco-ordinated mix of old and new technology, the lack of a totally structured system architecture within Nato, and the delayed state of many programmes, in the event of a major armed conflict within Europe, Nato C3 could evaporate into a state of total ineffectiveness and confusion.

Dr Jon L. Boyes, former Vice Admiral U.S. Navy, and now International President of the influential U.S. Armed Forces Communications and Electronics Association, believes that the problems stem from the continued preponderance of contracts that ended up in American hands, with very serious results of *non-production* and limitations in even the ability of those systems to be deployed and to meet the specifications.

A prime example, says Admiral Boyes, of a large company winning a contract and then not paying enough attention to get the system "on the street."

The competitive U.S. environment has created the attitude among some U.S. companies of "let's win the contract at all costs and then worry about whether we can deliver or not."

Added to this has been a political process which has developed over the past few years, which has resulted in the establishment of a very powerful group in the U.S. which has decided, a part of the overall political theory of the U.S., that *they will stop technology transfer*, in the belief that some Europeans can't be trusted to prevent that technology falling into the hands of the Soviet Union.

Marconi Clansman vehicle radio. The company has been successful in selling its systems to the U.S. Navy.

According to Admiral Boyes, what you now have is Nato members looking sideways at their fellow nations and saying, "Well, I'm not sure that I can trust you."

There are signs of a realisation that a solution must be found and that Nato has to work together to use its combined technology resources to the full to maintain its lead over the Soviet bloc.

Admiral Boyes believes that U.S. industry will move back into a more reasonable way in Nato, not least because a number of key industrial leaders and military people are aware of past performance and realise the need to be a lot more prudent in their dealings with Nato.

What is already happening is that European companies are slowly taking control of Nato business with U.S. companies taking sub-contracts or forming consortia arrangements. While there seems no possibility of getting over the "Buy America" policy when there is a lot of money involved in a particular programme, European companies are beginning to pick up some orders from the U.S. Defense Department, particularly in areas where they are able to demonstrate superior technical performance.

Marconi Communication Systems, for example, has been successful in selling its Integrated Communications System to the U.S. Navy, while either Plessey or Thomson-CSF of France (in partnership with U.S. companies) is soon to be selected to supply equipment for the potentially lucrative Mobile Subscriber Equipment element of the major U.S. Tri-Tac battlefield communications system.

Key element

Indications are, however, that whichever company wins the order most of the manufacture will be carried out in the U.S.

Integrated and efficient C3 is the key element of the whole reformation in Nato defence which has to come about. However, it is only part of a much broader problem which must soon be addressed—the overall role and individual contribution of Nato members in the defence of Europe. Space is a prime example, while we may not like the idea of space turning into a battlefield, the U.S. leadership seems to see the process as almost inevitable and is putting a lot of money into space programmes.

Many Americans are calling for European countries to bear a larger burden of the cost of European defence and will certainly want to see increased efforts in the space area from its European partners.

Simple economies and a changing attitude in the U.S. will dictate the need for Europe to become less dependent on U.S. military support. At the same time, there has to be a move towards greater trans-Atlantic technical co-operation, a realistic two-way street trading policy and a fairer distribution of Nato contacts if the alliance is to maintain its technology lead. The balance is delicate.

International trade battles loom

Optical fibre transmissions

RAYMOND SNODDY

THE USE of optical fibres in telecommunications has developed in less than five years from small prototype systems to become one of the leading ways of carrying trunk telephone traffic.

Britain, Japan and the U.S. are increasingly using fibre-optics for trunk transmission. This technology is now spreading to the junction network—linking exchanges within a small area. And within three years, the first trans-Atlantic submarine cable to use optical fibres will have been installed.

Optical fibres are hair-thin strands of very pure glass which can carry high volumes of telecommunications traffic in the form of tiny pulses of light, usually from a small laser. The advantages of optical fibre over copper cables are:

- The system is usually much smaller and lighter than conventional co-axial cable which, in turn, reduces the handling costs and makes it easy to fit into crowded city ducts.
- It is now significantly cheaper for carrying high volumes of information, such as on busy trunk routes.
- The signal sent along optical fibres needs less frequent boosting, which thus means fewer expensive repeater systems. It also means most repeaters can be stored within exchanges, rather than in damp holes in the ground.
- It is immune from electrical interference and is much harder to tap.

Although military authorities have a strong interest in the potential of optical fibre technology, its greatest use by far is in the area of telecommunications. American Telephone and Telegraph alone is installing optical fibre at the rate of 200,000 miles of fibre a year, and competitors such as MCI and GTE are also rapidly building new routes using fibre-optics.

One research company estimates that the U.S. will be installing 4.5m miles of fibre a year by 1990. Japan is building a fibre-optic "backbone," linking its main islands, and even has extremely ambitious plans to use optical fibres as a link with every home.

Britain is also one of the leading users of optical fibres: British Telecom has only been installing optical fibre in the trunk routes for nearly a year. Mercury, the new network competitor for BT, is building a core figure of eight trunk network in England which is based on optical fibre cables, which run alongside British Rail's tracks.

A sign that optical fibre technology has truly arrived is that it has now become the subject of international trade battles. Last autumn the U.S. Commerce Department warned that the American lead in the field was being jeopardised by the threat of subsidised competition from other countries and closed markets.

"Foreign manufacturers will inevitably penetrate the U.S. market to a degree that under current demand conditions, U.S. firms will be unable to match in their efforts to sell abroad," the department warned.

Accusations

The U.S. fears that optical fibre development in many countries is being funded to a much greater extent by national governments than it is in the U.S. There have also been accusations that Nippon Telephone and Telegraph is paying considerably more than prevailing world prices for optical fibre systems which has cross-subsidised Japanese, companies such as Sumitomo and NEC, in export markets.

One area where there is likely to be very keen international competition is in submarine cable systems. Britain's Standard Telephones and Cables, the world's leading supplier of such systems, is building the first international undersea link to use optical fibre. The cable will run between Britain and Belgium and is expected to go into service this year.

Most attention is being focussed on the new trans-Atlantic cable TAT-8, which is expected to come into service in 1988. The cable is being built in three parts which meet at a junction box under the ocean, close to the European coast.

The major share of TAT-8 is being made by AT&T which is also the largest shareholder (35 per cent) in the cable project. AT&T will be supplying the 3,150-mile stretch from the U.S. to the junction for $250m. STC won orders of $52m to link Britain with the junction, and Submarcom, a French consortium, won orders worth $33m.

The unusual method of building the cable with a junction box enables all three companies to build a complete section of the system. There is still some uncertainty, however, as to whether optical fibre technology will survive as long under the sea as conventional copper cable; the design life of a submarine cable is 25 years.

Such worries have not deterred plans to instal the first private enterprise trans-Atlantic fibre optic cable. Britain's Cable and Wireless, and a group of U.S. investors, have set up a joint-venture, Tel-Optik, which is to spend $600m building two fibre optic submarine cables. The first of these will come into operation in June 1989.

Competition grows fiercer

Mobile systems

GEOFFREY CHARLISH

THE DEBUT next Spring of Britain's new cellular radio-telephone systems, Cellnet and Vodafone, will be only the opening phase in a competitive technology struggle to provide the best, lowest cost service for the expected 30,000 or so first year customers.

For example, an unknown outsider, Excell Communications (a British company) has already surprised the electronics giants with a hand-held portable that weighs only 1 lb and measures a mere 7x 3 x 1.25 inches. Ericsson, too, with a relatively long cellular experience in the Scandanavian NMT system, has just announced a 50 per cent size reduction in its vehicle sets. Size and weight will prove crucial to sales.

In addition, there is already talk of "second generation" cellular radio, probably to European standards, that will be all digital, possibly using packet switching techniques of the kind used to send data over land lines more cheaply and efficiently.

Both cellular radio and another emerging technique called community trunking are aimed at overcoming the 50 year old bete noire of radio communications — the filled waveband.

Since World War Two, mobile communications frequencies have been steadily increased (they are now at 900 MHz) and speech bandwidths have been cut to accommodate more channels. But demand has always outstripped supply, keeping public service prices artificially high.

The big advance came in 1959 from Bell Laboratories—cellular working. But only since the mid-'70s have computerised channel tuning, frequency synthesis and high speed electronic switching been available to implement it.

A conventional system for a city often uses a single, centrally placed, radio transmitter giving a coverage of 15 to 20 miles. Such a system might be allocated 50 channels. But the high power of the transmitter needed to reach vehicles at the city's edges means that the signals will sometimes be picked up much further away. So the 50 frequencies cannot be re-used within perhaps 100 miles for fear of mutual interference.

Cellular radio

Cellular radio allows the channels to be used over and over again. The city area is divided into a number of "cells' (areas) a mile or two across, each with its own low power transmitter (and a receiver) just able to reach the cell edges.

None of the transmitters—there might be eight or so in a city the size of London—can send signals beyond perhaps 15 miles, allowing a set of cell frequencies to be deployed again just beyond that distance.

All the cell base stations are connected by leased telephone lines (or microwave links) to a controlling computer which acts like a telephone exchange. This in turn is linked to the national wired telephone network.

A mobile user dials the number he wants and his unit sends it to the cell base over a permanently available control channel. The base station relays the number to the special computer/exchange which then does two things.

First, it allocates a free radio speech channel and tells the mobile (over the control channel) to tune to it. Secondly, it dials out the number the mobile wants into the public telephone network. In a few seconds, the two parties are talking.

Calls from the public fixed network (a special code is dialled) come into the cellular system exchange, which pages all the mobiles over the control channel. They all immediately compare the number with their own, the matching recipient responds, is allocated a speech channel, and receives the call.

When a vehicle moves from one cell to another the system knows because the new cell's receiver starts to get a stronger signal than the old. Then, if a call is in progress, the vehicle is allocated a new frequency from the new cell's set of channels. The process takes about 0.5 sec and is usually undetectable by the user.

As and when demand increases, the cells can be divided into smaller ones with lower transmitter powers. Further re-use of frequencies in nearby cells becomes possible, yielding more channels.

The other technology, trunking, is the subject of four pilot projects in London conducted by Relcom Communications, Storno, Pye Telecoms and Motorola/Audiolink.

In a particular area, instead of a number of private user groups each having a fixed channel frequency, a number of channels are allocated to the area and each group is dynamically assigned one of them by computer when the need arises.

In theory, the allocated channels can be kept fully occupied, implying more users, or fewer channels.

In this welter of new two-way radio speech offerings, what is the future for paging, in which a user is "bleeped," observes a tiny displayed message on a matchbox-sized receiver, and then finds a phone?

In-house paging in big hospital, airport, industrial and commercial sites seems set fair; the user unit is conveniently tiny and there is always a phone nearby. But the effect of public cellular radio on public paging is another matter. Although the latter is much cheaper, it does rather depend on good public call box availibility.

Alex Poliakoff of Multitone wants in-house pagers with dialling pads, to allow dialling out via the PABX, and has pleaded for new frequency allocations.

On the threshold of a new era

Satellites and cables

RAYMOND SNODDY

A NEW "half-open" skies era is about to dawn in satellite communications which will lead to growing competition over the rest of the decade.

With the full weight of an electoral landslide behind him President Ronald Reagan in November moved to create the first breach in the 20-year-old monopoly over international satellite communication held by the International Telecommunications Satellite Organisation (Intelsat).

President Reagan has agreed to allow U.S. private sector competition in international communication satellite systems.

The decision allows the U.S. Federal Communications Commission (FCC) to begin processing six applications from American companies—four of which are interested in the lucrative trans-Atlantic business—to compete with the 109 nation Intelsat.

The changes will not happen overnight. It could take as long as four years for the FCC to deal with the applications and for would-be private operators such as Orion Satellite Corporation and Cygnus Satellite Corporation to begin offering a competitive service.

Restrictions

Strict limits will also be set to the degree of competition in an attempt to protect the financial viability of Intelsat. The private operators will be restricted to intra-company video, data and voice transmissions. The private U.S. telecommunications services will not be allowed to carry communications between corporations or telephone between individuals.

The Reagan administration claims that the limitations will protect about 85 per cent of Intelsat's revenues from competition.

The Reagan decision is, however, likely to prove historic despite the qualifications. Intra-company data traffic is the fastest growing and most lucrative sector of the business and it will be very difficult for regulators to distinguish in future between data and digitised voice traffic.

At the time when competition between private and public sector satellites could be starting to intensify fibre optic transatlantic cable, will expand telecommunications capacity. A group of 28 of the world's leading telecommunications authorities hope to have the first transatlantic submarine fibre optics cable in operation by 1988.

Cable and Wireless together with Tel-Optik of the U.S. hope to follow in 1989 with the first private enterprise cable across the Atlantic using strands of pure glass as thin as hair. They plan a second cable for 1992. Each would have the capacity to handle the equivalent of 12,000 simultaneous telephone calls.

Cable and Wireless believes that fibre optic cable will increase the tendency to use cable capacity on high density routes and satellite on dispersed or multi-point routes.

However in Europe at least the growth of international telecommunications business has been greatly in excess of forecasts of even a few years ago.

Sig Andrea Caruso, secretary-general of the European Telecommunication Satellite Organisation (Eutelsat) pointed out recently that experts had once "demonstrated categorically" that no more than 300 or 400 international telephone circuits between remote locations in Europe would be able to make economic use of satellites.

But despite having something like 12,000 telephone circuits Eutelsat's ECS satellite has been operating at full load since October 1983. The demand for additional satellite services in Europe, largely in the area of television distribution, will make it necessary to add a third ECS satellite to the present two this year.

"As far as Eutelsat is concerned the prospects for satellite communication in Europe are very promising indeed, with the necessary steps already having been taken to meet international market demand for public telecommunication services for at least another ten years," Sig Caruso told a Financial Times Telecommunications conference.

However, Sig Caruso gave a pessimistic view of the prospects for direct broadcasting by satellite (DBS) in Europe. He appealed to European countries to get together to share the financing of common satellites which would carry a large number of channels to make such projects viable.

Such co-operation would mean a single second generation DBS system for Europe instead of five or six.

"This alternative is, believe me, worth considering if our wish is to make DBS reasonably viable from a financial point of view," he added.

But whatever the hopes for second generation DBS plans to get DBS in Europe going in the first place received a boost over Christmas. M Laurent Fabius, the French Prime Minister, announced that TDF-I, the DBS satellite being produced under a Franco-German co-operation agreement, would be launched on July 7 1986.

1988 launch

More significantly, M Fabius said that TDF-2, which would make the system fully operational, would be launched in 1988.

M Fabius unveiled the plan in a letter to M Jacques Pomonti, head of France's National Audiovisual Institute asking him to set up a new company to run the operation. The Government would hold a blocking minority in the new company which would be seeking private sector finance.

The formal decision by the French to go ahead with a two satellite DBS system will increase pressure on the British not to be left behind, particularly as the French DBS broadcasts should be able to be picked up over most of the UK.

The British project, which groups the BBC, the ITV companies and five non-broadcasting organisations, still faces considerable uncertainty. The prospective operating consortium has asked Mr Leon Brittan, the Home Secretary, for permission to go to international tender for the satellite system. It believes the £80m a year quoted by United Satellites, the UK satellite consortium is so high that it would make DBS uneconomic.

As Mr Brittan's response is awaited the final decision on British DBS now seems unlikely before the spring.

Uncertainties over DBS are also reflected in the prospects for cable television—the other major arm of the new media. In Britain more than a year after 11 pilot francises were chosen to begin what was supposed to be a multi-channel cable television revolution, only one—Swindon—has begun and many of the others are having difficulty raising the necessary finance.

In Germany, despite government financial support, there is a deep division on how cable should develop.

Governments of the Laender, or states, are split along party lines. The seven Christian Laender favour free competition while the Social Democrat Laender are anxious to protect the public service broadcasters.

France has the most ambitious cable plans of any European country with a FFr 30bn programme spread over 20 years. But here too there have been criticism both of delays in legislation and policy decisions and of the high cost of fibre optic installation.

Mr Stuart Young, chairman of the BBC, seemed to sum up the present state of new multichannel cable television in Europe at a conference last autumn when he described it all as "a reluctant revolution."

● Fibre optic cable systems offer big advantages in areas of Technology and economy, particularly on high density routes. Right: Peter Tait, a British Telecom engineer, working with optical fibre cable during the Portsmouth to Isle of Wight underwater cable-lay project

Industrial shakeout gathers momentum

Public switching systems

JASON CRISP

THERE IS one thing on which the world's telecommunications suppliers agree. There are too many companies offering digital public telephone exchanges, and there is no doubt that many will have to withdraw from the field.

The problem is that the world demand for public telephone exchanges is not big enough to support the enormous escalation in development costs. Today, it would probably cost over $1bn to develop a new digital telephone system. In addition one leading manufacturer says it costs $100m a year in research and development to keep the system up to date and competitive.

The consensus is that there will be no more than nine suppliers with three each in Europe, North America and Japan although some think it could be even less. There is less agreement about which companies will remain as prime suppliers of telephone systems.

However, the shake-out in the industry is already underway. Last year, the Swiss abandoned an attempt to develop their own digital system and held an open tender. They have adopted System 12 from ITT Corp, the U.S.-owned multinational, and AXE from LM Ericsson of Sweden.

Two years ago Philips, the Dutch electricals giant, abandoned its attempt to develop a digital switching system after spending several hundred million dollars. Philips teamed up with American Telephone and Telegraph to form a joint venture to sell the U.S. giants No. 5 ESS exchanges in world markets.

Following a major reorganisation of the French telecommunications industry Thomson has also withdrawn from the telecommunications business with its assets being transferred to its old rival CIT-Alcatel.

One result of the rationalisation of the French industry is that for the first time France is prepared to consider buying exchange equipment developed outside the country. Outside the U.S., practically every industrialised nation has maintained a closed market for telecommunications switching equipment, which has remained the prerogative of the domestic suppliers.

Fundamental changes

That France, of all countries, *should even indicate it would* consider an outside system is a measure of the fundamental changes which are now taking place in the industry. The French have been seeking a reciprocal trading arrangement with another country, such as Britain, so that its telephone authority (PTT) would not be exposed to the risks and costs of only having a single supplier.

Other countries which would not have dreamt of even looking at another telephone system are now considering buying them. In West Germany the Bundespost has for the first time accepted two types of telephone switch, the EWS-D from Siemens and System 12 from Standard Electrik Lorenz, a subsidiary of ITT.

To the initial amazement of the indigenous suppliers—Plessey, GEC and Standard Telephones and Cables—British Telecom has invited tenders for a second digital system. BT itself had largely paid for the development of System X the long awaited digital exchanges, which have just begun to be installed.

After a major re-organisation which meant STC was no longer a partner in the System X project BT announced it would seek an international tender for a significant part of its switching needs. BT is close to a conclusion in its evaluation of the three short-listed candidates, Thorn-Ericsson (a joint venture between Thorn EMI and LM Ericsson, Northern Telecom of Canada and Philips/AT&T. Although no indication has been given of the size of the initial order it is likely to mean substantial further business as BT has indicated it would like to buy between 10 and 15 per cent of its needs from a second source.

The U.S. market is also in a state of turmoil as a result of the break-up of AT&T at the beginning of last year. The main suppliers in the U.S. have been AT&T itself and Northern Telecom, the high-flying Canadian telecommunications group. A number of other companies are now trying to expand business or break into the market by selling to the independent regional Bell operating companies. Companies seeking this market include General Telephone and Electronic, ITT, CIT-Alcatel, LM Ericsson, and Plessey through its U.S. susbdiiary Stromberg-Carlson.

Business outside the Western world has always been competitive and is being spurred by the knowledge that there is a fight for survival in telecommunications switching. Cut price sales can be justified on the basis that it helps defray the development costs and is likely to mean follow-on orders. In addition there is a growing business in training for maintenance and installation and the establishment of local manufacturing—a vital ingredient in any export deal.

Technological advances are opening up almost unlimited horizons of innovation and choice in the area of international telecommunications. Above: America's Space Shuttle roars away from the launch pad at Cape Canaveral. The project has greatly increased the scope for research in communication satellite technology

Upheavals worldwide

CONTINUED FROM PAGE 1

BT itself has adapted to the market. Japan also appears set on controlling access to its market once it is deregulated.

To a large extent, this reluctance stems from industrial policy considerations. In the UK, particularly, the government's initial enthusiasm for the virtues of untrammelled competition was quickly tempered by concern that its market would be overwhelmed by foreign entrants which would sweep aside the domestic industry.

In continental Europe, the picture is complex and confused. There have been tentative movements in several countries towards a relaxation of monopoly rules over apparatus and services, though none is yet considering introducing competition in public networks, as the UK has done by licensing Mercury Communications.

There have also been discussions, both bilaterally and at EEC level, about proposals for closer European industrial collaboration, the harmonisation of technical standards and reciprocal procurement. How far and how fast progress will be made on these fronts remains uncertain, however.

A number of European telecommunications monopolies (PTTs) still seem to believe that they can minimise the impact of the upheavals elsewhere in the world by insulating their national markets. While this may well be true in the near-term, it is questionable how long it will hold good in an industry whose technology increasingly ignores national frontiers.

Perpetuating such policies will also keep European markets fragmented, when the survival of European telecommunications manufacturers requires economies of scale far larger than their home markets can provide.

Of all the pressures for change, perhaps the most powerful is the increasingly dynamic inter-relationship between communications and the rest of the economy. The availability of efficient, flexible and technologically advanced communications facilities is closely linked to fundamental changes in the structure and operations of industries as diverse as banking and financial services, broadcasting and manufacturing.

Communications and the needs of the customers which it serves feed off each other. In the U.S. large corporate users are already taking charge of their own communication operations, rather than relying on carriers such as AT&T, further muddying the distinctions between once separate industries.

Few other countries yet permit such freedom. But it does seem that information flows and the means by which they are transmitted are becoming fused together. For much of the past century, progress in telecommunications was determined largely by the technical ingenuity of the suppliers.

Today, as technological advances open up almost unlimited horizons of innovation and choice, the needs of users are becoming an increasingly decisive factor in the industry's future development. To turn Marshall McLuhan's celebrated phrase around, the message is becoming the medium.

How technologies are combining to speed up the desk-top revolution

A big spur for productivity

TELECOMMUNICATIONS has been a spur to productivity in the office since the invention of telephony. In the modern office, however, shaped by the convergence of computing, telecommunications and office systems, it takes on an importance far beyond its traditional function of distributing voice, telex and telegraphic messages.

Using as their common currency the binary code, the language of computers and computing, telecommunications networks are able to distribute, store and recall voice messages, facsimile images, video images, data and text.

Automation in the office

ALAN CANE

Manufacturers are starting to launch desktop devices—"integrated workstations"—designed to take advantage of the new potential.

In the U.S. and now in Europe, for example, Northern Telecom has been selling the "Displayphone" — a combination of data terminal and telephone which enables an executive to conduct a "hands-free" telephone conversation, examine information held on a private or public database or send a letter by electronic mail.

Two months ago in Britain, ICL launched its "One-per-Desk," a multifunction workstation designed in conjunction with Sinclair Research.

It featured advanced telephony — hands-free operation, last number recall, on-line directories and so on, together with considerable computing power — word processing, spreadsheet and database software.

It was modelled to some extent on the Sinclair QL microcomputer, and so some might argue against its use of Sinclair's idiosyncratic "microdrive" storage units, but nevertheless it is one of the first desktop units to combine voice telephony and computing in a single package.

To give an idea of the way things are going, the Grid "Compass" portable computer, one of the best but also the most expensive of the lap machines, can be supplied fitted with a telephone handset.

Frost and Sullivan, the New York-based market consultancy, recently carried out a survey among potential users of integrated workstations; it found that 62 per cent of its sample wanted an executive workstation tied into the telephone network.

Of that sample, 77 per cent were anxious to be able to see information held on mainframe databases, 71 per cent wanted to be able to communicate with other managers or professionals and 53 per cent wanted to be able to make contact through their workstations with people who reported to them.

But true executive workstations do not exist at present except in prototype form—cannot exist, in fact, until national telecommunications networks become all-digital.

The three workstations already described use separate exchange lines to transmit and receive data and voice or are able only to handle voice or data at any one time, chiefly because of the deficiencies of telecommunications systems as they exist today.

The ideal would be a telecommunications network worldwide operating only in digital fashion, but that is some way off yet.

Contrasts

Conventional voice telephony operates in analogue fashion—voice and data is represented by an electrical signal which varies continuously.

In a digital network, on the other hand, all information is represented by discrete pulses of electricity and clever timing routines can be established so that a number of different kinds of messages can be transmitted simultaneously and unscrambled according to the time they arrive at the receiving end.

This is called an integrated services digital network (ISDN) —existing networks may transmit information in digital form from switchboard to switchboard—the long hops—but the local loops from handset to switchboard remain firmly analogue.

Writing in *Science* magazine, Mr John Mayo argued: "Ultimately, the expansion of digital technology and user demand for data orientated services will lead to realisation of the integrated services digital network.

"This public, nationwide, end-to-end digital capability will let the user choose the type of terminal to be used, the rate at which information will be transmitted and the size and density of messages — and will also allow simultaneous provision of a variety of voice and data services."

Already the first of these new services are starting to make their mark. After word processing, for example, the first electronic office system a company instals is usually electronic mail.

Within a few weeks, staff in these companies find their electronic mail system indispensable. The theory of such systems is simple. The British Telecom "Gold" electronic mail service, for example, which is based on a system developed by Dialcom in the U.S., comprises a number of central computers or "post offices." Each post office holds the mail for its customers in electronic pigeonholes in its computer memory.

Letters can be transmitted to any mailbox by anyone with access to the system, but the contents of a mailbox can only be read by someone with the right passwords (much has been made recently of computer "hackers" gaining illegal access to electronic mail boxes; this is easy if the passwords can be obtained one way or another, but very difficult otherwise. In other words, computer systems are at much more risk from conventional betrayal of trust than from technological wizards).

Facilities

Each user can call into his or her mailbox from anywhere in the world, using a portable computer if necessary, to catch up with the latest news, messages and so on.

He or she can also despatch messages using the portable computer to colleagues on the "mail run." Future developments could include voice synthesis technology built into the mailbox which would enable the user to have his mail read to him automatically over a conventional handset, so obviating the need to carry around a portable computer terminal.

After a slow start, electronic mail seems likely to become an important part of office automation. Voice mail, however, offers a cheaper approach which is just as useful in many cases.

Such a system converts messages into digital form and stores them in a computer memory, the recipient simply dials into the database to have the message relayed in voice form.

Video teleconferencing — the transmission of either full video or "compressed" images and local area networks (LANs) which allow fast, efficient and economical transmission of data from workstation to workstation are among the techniques which are being used increasingly to satisfy that majority of office workers who want their office technology to help them make better contact with their colleagues. Viewdata is another technology using conventional telecommunications that has a role in the future office.

But the real key to the future is ISDN; for the world's telecommunications authorities, the principal challenge is how quickly and how well they can establish and commission these advanced networks.

In the UK, a Mercury trunk microwave link connects Birmingham with London. This is being supplemented by the first phase of Mercury's optical fibre trunk network. Trunk antennae and local distribution equipment are sited on Alpha Tower, with direct line of sight across the City of London.